



PHD

Managing people for performance in medium-sized workplaces in the UK

Downing-Burn, Victoria

Award date:
2002

Awarding institution:
University of Bath

[Link to publication](#)

Alternative formats

If you require this document in an alternative format, please contact:
openaccess@bath.ac.uk

Copyright of this thesis rests with the author. Access is subject to the above licence, if given. If no licence is specified above, original content in this thesis is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC-ND 4.0) Licence (<https://creativecommons.org/licenses/by-nc-nd/4.0/>). Any third-party copyright material present remains the property of its respective owner(s) and is licensed under its existing terms.

Take down policy

If you consider content within Bath's Research Portal to be in breach of UK law, please contact: openaccess@bath.ac.uk with the details. Your claim will be investigated and, where appropriate, the item will be removed from public view as soon as possible.

Managing People for Performance in Medium-Sized Workplaces in the UK

submitted by Victoria Downing-Burn
for the degree of PhD
of the University of Bath
2002

COPYRIGHT

Attention is drawn to the fact that copyright of this thesis rests with its author. This copy of the thesis has been supplied on condition that anyone who consults it is understood to recognise that its copyright rests with its author and that no quotation from the thesis and no information derived from it may be published without the prior written consent of the author.

This thesis may not be consulted, photocopied or lent to other libraries without the permission of the author for 3 years from the date of acceptance of the thesis.

A handwritten signature in black ink, appearing to read 'Victoria Downing-Burn', with a stylized flourish at the end.

UMI Number: U601859

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



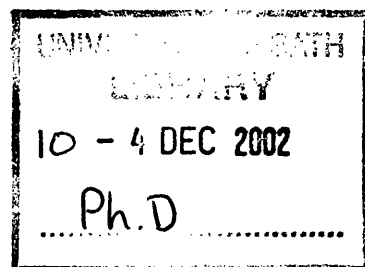
UMI U601859

Published by ProQuest LLC 2013. Copyright in the Dissertation held by the Author.
Microform Edition © ProQuest LLC.

All rights reserved. This work is protected against
unauthorized copying under Title 17, United States Code.



ProQuest LLC
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106-1346



Acknowledgements

The Work and Employment Research Centre, School of Management, at the University of Bath, is a leading contributor in the understanding of the role of human resources, organisational behaviour and employment relations in workplaces both in the UK and worldwide. Being part of WERC has provided me with support and encouragement from a number of individuals.

Most outstanding in his dedication, patience and persistence, particularly during my darkest hour, is Professor John Purcell to whom I owe a debt of gratitude. I wish to extend my deepest thanks to Dr Nick Kinnie, who has been my discreet prompt in the wings.

To my many University colleagues who have imparted their encouragement and words of experience, I owe a debt of thanks. In particular I give special thanks to Dr Annette Cox for her moments of unassuming verve and to Dr Ruth Thomas for her unflinching belief in the research journey.

Without the sponsorship of the Engineering Employers' Federation, this project would not have been possible. Thanks to David Yeandle, Deputy Director of Employment Policy, and his colleagues who have both welcomed me and assisted in this project. Thanks must also be extended to the following EEF Associations and their member companies: Western, West Midlands and South. I am particularly grateful to those who replied to the questionnaire, and those who took in the case studies including employees, trade union representatives and managers.

Finally, to my family who continue to be my inspiration and my courage. To my Dad and Mum of whom I am so proud and so grateful for their continuous love and support. To Rachael without whose ability to check me against reality may have led to disaster. To my husband and great friend, Gary. He has always been at my side during this journey providing such dedication, love and commitment.

Abstract

This study seeks to challenge the existing beliefs, and to review the gaps, in the relationship between human resource policies and practices and performance. By reviewing the Universalistic, Contingency, and Configurational perspectives clarification is sought as to how best to study the relationship, as well as revealing what the links are.

Central to a better understanding of how the HR-performance relationship is developed, are the concepts of path dependency and causal ambiguity. These concepts are explored through a multi-method approach, with the adoption of quantitative and qualitative data providing a robust view of HR within organisations.

From within a population of engineering workplaces, each a member of the Engineering Employers' Federation, data was successfully collated from two hundred and fifty-six medium sized workplaces using a questionnaire. The analysis of questionnaire data is triangulated with four in-depth case studies providing an uncommonly strong research framework.

The questionnaire data indicates that the presence of HR is influenced by a variety of factors, including customers, technology, and organisational size. The relationship with performance is revealed as more complex. The questionnaire data provide modest indications as to the mediating factors between HR and performance. These include a focus on engaging flexibly, and providing a distinctive product or service, consistent with a differentiation approach to engineering.

Case study data provides greater detail, enabling a discussion of the nature of the HR system, and the way in which its introduction and management is critical to achieving effective performance. The case company results also find that elements of an appropriate HR system facilitate the discretionary behaviours of management. In turn, these behaviours enhance the opportunities for employees to engage with the organisation encouraging employee commitment and discretionary effort. Similarly, an appropriate HR system enables employees to develop patterns of capability, unique to the organisation leading to sustainability.

Table of Contents

1	Introducing human resource management to engineering	1
1.1	Introduction	1
1.2	Approaches to adopting HR	2
1.3	Manufacturing competitive advantage from HR	3
1.4	Conclusions	10
2	Managing people for performance in manufacturing	11
2.1	Introduction	11
2.2	Manufacturing strategies and HR approaches	13
2.2.1	Reducing cost for competitiveness	14
2.2.2	Differentiating for competitive	15
2.3	Modelling change in people management	18
2.4	Challenges within the performance - HR relationship	20
2.4.1	Theoretical challenges	21
2.4.2	Causality within HR and performance	22
2.4.3	Empirical challenges - an implicit relationship?	23
2.5	Work organisation and HR - contemporary definitions	24
2.6	Developing an HR system - reviewing policies and practices	26
2.7	Theoretical approaches to the adoption and diffusion of HR systems	31
2.7.1	Universalistic Perspective	31
2.7.2	Contingency Perspective - placing HR in context	33
2.7.2.1	Organisational factors and business performance through HR	34
2.7.2.2	Organisational factors and the uptake of HR practices	40
2.7.3	Configurational approach	43
2.8	Configuring High Performance Work Systems	47
2.8.1	Substantive participation	49
2.8.2	Skills	50
2.8.3	'Appropriate incentives' or motivations	53
2.9	Diffusion	57
2.9.1	Path dependency	59
2.9.2	Causal ambiguity	59
2.10	HR and medium sized engineering workplaces	63
2.10.1	Fraternalism	66
2.10.2	Paternalism	66

2.10.3 Benevolent Autocracy.	67
2.10.4 Sweating	68
2.11 Influencing factors in the adoption of HR in MEs	68
2.12 Market conditions and HR in MEs	69
2.12.1 Dependency	69
2.12.2 Dominated	69
2.12.3 Isolated	69
2.12.4 Innovative	70
2.13 Conclusions	70
 3 Dynamics of empirical evidence	 73
3.1 Introduction	73
3.2 Quantitative Methodologies	74
3.2.1 Questionnaire development	75
3.3 Qualitative approaches	78
3.3.1 Case methodologies - the single site	78
3.3.2 Case methodologies - the multi-site	80
3.4 Emerging research questions	82
3.4.1 Measuring performance through competitive advantage	82
3.4.2 Introducing human resource management	84
3.4.3 Introducing HR for performance through competitive advantage	86
3.4.4 Combining human resource management policies and practices	88
3.4.5 Effective people management and HR policies and practices	89
3.5 Methodological considerations	90
3.6 Cross-sectional and longitudinal data	91
3.7 Multi-method approaches and data triangulation	91
3.8 Conclusions	93
 4 Researching in organisations	 94
4.1 Introduction	94
4.2 Research paradigms and philosophies	95
4.3 Case study philosophy and methods	100
4.4 Quantitative contributions in case studies: the role of the questionnaire	104
4.4.1 Questionnaire design	104
4.4.2 Research population	105

4.4.3	Questionnaire planning	106
4.4.4	Questionnaire development	108
4.4.5	Question modules	108
4.4.6	Order of questions	109
4.4.7	Question types	112
4.4.8	Wording of questions	112
4.4.9	Data Types	113
4.4.10	Piloting	114
4.4.11	Administration	115
4.5	Questionnaire outcomes	115
4.5.1	Response rates and non-responses	116
4.5.2	Workplaces for further study	116
4.6	Questionnaire data analysis	116
4.7	Qualitative contributions in case studies: the role of the interview	117
4.7.1	Objectives	119
4.7.2	Interviews	119
4.7.3	Exploratory interviews	120
4.7.4	Gaining access	120
4.7.5	Interview preparation	120
4.7.6	Selecting interview sites	122
4.7.7	Interview process	123
4.7.8	Number of interviewees	125
4.7.9	Data recording	125
4.7.10	Data coding and analysis	126
4.8	Observations	127
4.9	Company Reports	127
4.10	Conclusions	127
5	A profile of engineering workplaces	129
5.1	Introduction	129
5.2	Data preparation: recording and coding	130
5.3	Response bias	132
5.4	Missing data	133
5.5	Descriptive data and preparation	134
5.6	Weighting data	134
5.7	A profile of engineering workplaces	135
5.7.1	Workplace size	135
5.7.2	Organisational status	136
5.7.3	Ownership of engineering workplaces	137
5.7.4	Age	139

5.7.5	Summary	139
5.8	Demography of the workforce and management arrangements	140
5.8.1	Employee sex	141
5.8.2	Management representation	141
5.8.3	Levels of skill within the workforce	141
5.8.4	Types of work contract	142
5.8.5	Operating technologies	143
5.8.6	Summary	144
5.9	Management of the workforce	145
5.9.1	Personnel representation	145
5.9.2	Employee representation	146
5.9.3	Trade union representation	147
5.10	Conclusions	147
6	HR and performance in context	149
6.1	Introduction	149
6.2	Data preparation for univariate statistics	150
6.3	Data preparation for bivariate statistics	152
6.4	Human resource management index	154
6.5	Performance index	156
6.6	The adoption of HR - considering research question 1	159
6.7	HR and performance - considering research question 2	163
6.8	Introducing HR - considering research question 3	168
6.8.1	When the business is less than three years old?	168
6.8.2	When the organisation is large (more than 200 employees)	169
6.8.3	When the workplace is part of a larger organisation	172
6.8.4	When advanced technology is used in the production methods	172
6.8.5	Where major customers are concerned with quality issues	174
6.8.6	Where customers are interested in HR issues	174
6.8.7	Where there is a human resource / personnel specialist	176
6.8.8	Where trade unions exist	177
6.9	HR and performance - considering research question 4	182
6.9.1	The work force is multi-skilled	183
6.9.2	Additional question: presence of an HR / personnel specialist?	184
6.9.3	The business strategy - product / operational differentiation	184
6.9.4	The business strategy emphasises quality	186

improvements	
6.9.5 Additional question: emphasis on flexible approaches	187
6.10 Summarizing the incidence, introduction and performance of HR	189
6.11 What was happening in engineering workplaces in 1998?	191
6.11.1 High and Low HR companies	192
6.12 Combining HR practices for competitive advantage - question 5	194
6.12.1 Cluster analysis	195
6.13 Engineering workplaces and HR characteristics	199
6.13.1. Cluster 1	200
6.13.2 Cluster 2	201
6.13.3 Cluster 3	202
6.13.4 Cluster 4	203
6.13.5 Cluster 5	203
6.13.6 Cluster 6	204
6.13.7 Summary	205
6.14 Manufacturing workplaces and performance characteristics	206
6.14.1 High performers and HR	207
6.14.2 Moderate / low performers and HR	209
6.15 Engineering workplaces their market share and performance	210
6.16 Absence and delivery performance	211
6.17 The role of the customer	212
6.18 The nature of changes for engineering workplaces	212
6.19 Summarizing research question 5	215
6.20 Conclusions	216
 7 People management in operation	 219
7.1 Introduction	219
7.2 Case Company Characteristics	220
7.2.1 Manufacturing and engineering processes and customer markets	220
7.2.2 Size	221
7.2.3 Workforce makeup	222
7.2.4 HR policies and practices	227
7.3 Case one - Huck International Ltd (UK)	228
7.3.1 Research time frame and processes	228
7.3.2 Profile	229
7.3.3 Management structure and style	230
7.3.4 The site and the workforce	230
7.3.5 Employee performance indicators	231

7.3.6	HR function and policy	233
7.3.7	Visions, Business Strategy, Human Resources Strategy	234
7.3.8	High Commitment Management in Huck (UK)	235
7.3.9	Culture	245
7.3.10	Summary	245
7.4	Case two - LAP Electrical	248
7.4.1	Research time frame and processes	248
7.4.2	Profile	249
7.4.3	Management structures and style	249
7.4.4	Style	250
7.4.5	Demography of the site and workforce	251
7.4.6	Employee performance indicators	252
7.4.7	Shop floor	252
7.4.8	Human Resource Management Function: Policy & Strategy	252
7.4.9	Terms and Conditions	253
7.4.10	High Commitment Management in LAP Electrical	254
7.4.11	Why do people work at Lap?	260
7.4.12	Summary	261
7.5	Case three - Sterling Hydraulics Ltd (SHL)	262
7.5.1	Research Time Frame and Processes	262
7.5.2	Profile	262
7.5.3	Management structure and style	263
7.5.4	Demography of the site and workforce	265
7.5.5	HR Function, policy and practice	266
7.5.7	Summary	271
7.6	Case four - Dowty Aerospace Propellers	273
7.6.1	Research time frame and process	273
7.6.2	Organisation Profile	273
7.6.3	Demography of the site and workforce	274
7.6.4	High commitment management in DAP	274
7.6.5	Management Style and Culture Change	281
7.6.6	Performance	283
7.6.7	Summary	283
7.7	Organisational outcomes and changes - a review of the case evidence	284
7.8	Summary	289

8 HR processes in practice - a review of the cases	292
8.1 Introduction	292
8.2 Contextualising the introduction of HR	293
8.2.1 Age, size and status	293
8.2.2 Technology	296
8.2.3 The role of the customer	297
8.2.4 HR / personnel specialists and consultants	299
8.2.5 HR Strategy	301
8.2.6 Trade union	302
8.2.7 Summarising HR in context	303
8.3 Combining and managing HR practices - the development of a system	306
8.3.1 Recruitment and selection	307
8.3.2 Training	308
8.3.3 Team working	310
8.3.4 Flexible job design / rotation & multi-skilling	312
8.3.5 Communications	313
8.3.6 Approaching the adoption of HR systems	314
8.4 Integrating HR for competitive advantage	317
8.4.1 Differentiating quality for competitive advantage - the case evidence	318
8.4.1.1 Huck (UK) and LAP	318
8.4.1.2 SHL and DAP	319
8.4.2 Approaching the adoption of HR for competitive advantage	320
8.5 Introducing and managing HR for competitive advantage	322
8.5.1 Huck (UK)	322
8.5.2 LAP Electrical	323
8.5.3 Dowty Aerospace Propellers	325
8.5.4 Sterling Hydraulics Limited	326
8.6 HR processes in practice: the Universalistic, Contingency and Configurational	327
8.6.1 Universal best practice	327
8.6.2 Strategic contingencies	328
8.6.3 Configuring HR	329
8.7 Conclusions	333

9 Managing HR systems for competitive advantage	337
9.1 Introduction	337
9.2 Reviewing the evidence	337
9.3 Modelling HR for competitive advantage	343
9.3.1 Developing an HR system	349
9.3.2 The management of HR practices	348
9.3.3 Employee outcomes	351
9.3.4 HR practices to enhance trust and discretionary effort	353
9.4 Reviewing the approaches to HR through path dependency & causal ambiguity	355
9.5 Summary	359
 10 Conclusions and implications	 361
10.1 Introduction	361
10.2 Differentiation for competitive advantage	362
10.3 Planning for Strategic HR	363
10.4 Challenging the HR - performance relationship	364
10.5 Implementing and managing HR systems	366
10.6 Managing competitive advantage	373
10.7 Contextualising and diffusing HR	375
10.8 Constructing HR systems in medium sized engineering workplaces	377
10.9 Conclusions and implications for further research	379
 References	 382
Appendix I	397
Appendix II	398
Appendix III	400
Appendix IV	401
Appendix V	402
Appendix VI	414
Appendix VII	417

List of Tables

Table	5.1	Status of the workplace	136
Table	5.2	Workplace status by number of employees	137
Table	5.3	Percentage of workplaces by ownership	138
Table	5.4	Age of workplace at current premises	139
Table	5.5	Distribution of workplaces by level of production technology	144
Table	5.6	Consultative arrangements across all workplaces	146
Table	6.1	List of HR policies and practices	164
Table	6.2	Frequency of HR policies and practices (N=256)	165
Table	6.3	Performance indicators by level of HR practice	168
Table	6.4	Level of operating technology by level of HR practice	166
Table	6.5	Correlation of HR and performance indices	168
Table	6.6	Distribution of companies by uptake of HR and age of site	169
Table	6.7	HR uptake and company size (crosstabulation)	170
Table	6.8	HR and workplace operating technology (crosstabulation)	173
Table	6.9	HR and role of the customer in quality practices	174
Table	6.1	HR and role of the customer in HR practices (crosstabulation)	175
Table	6.11	HR and the presence of a personnel specialist	176
Table	6.12	Distribution of companies by HR and union membership	178
Table	6.13	Factors influential in the introduction of HR	178
Table	6.14	Workplace size and operating technology (crosstabulation)	178
Table	6.15	Workplace size and personnel specialist (crosstabulation)	179
Table	6.16	Operating technology and personnel specialist	183
Table	6.17	Customers influence on HR and personnel specialist	181
Table	6.18	Workplaces with high performance and HR and a distinctive s	185
Table	6.19	Workplaces with high HR and performance and flexibility	188
Table	6.2	Cluster membership and population size	199
Table	7.1	.Case company customer base and suppliers	223
Table	7.2	Case Study Characteristics (during 1997)	225
Table	7.3	The adoption of HR policies and practices - questionnaire	228
Table	7.4	Example of Kaizen process (Confidential data)	245
Table	7.5	Absence and labour turnover by case (1996-1997)	284
Table	7.6	Employee and operational performance outcomes by case	285
Table	7.7	Organisational changes in the past three years by case compan	288
Table	7.8	Market share by case company	288
Table	8.1	Technology and levels of employees skills	296
Table	8.2	Customer influences on HR and quality (questionnaire)	298
Table	8.3	HR specialist and consultants (questionnaire evidence)	300
Table	8.4	Hours of training for employees by case company (quest.)	308
Table	8.5	Adoption of teams (case evidence)	310
Table	8.6	HR policies and practices within the case companies	315

List of Figures

Figure 2.1	Components of high-performance work systems (HPWS)	48
Figure 2.2	Relationship between high-performance work systems	52
Figure 4.1	Research methods and data collection	102
Figure 4.2	Methods and research questions	103
Figure 4.3	Response rates by EEF area	115
Figure 4.4	Further interest in research by EEF area	116
Figure 4.5	Number of interviews per case company	124
Figure 5.1	Distribution of workplaces by size	136
Figure 5.2	Distribution of work force by skill level	142
Figure 6.1	Distribution of HR policies and practices	162
Figure 6.2	Performance measures in high, moderate and low HR companies	164
Figure 6.3	Distribution of companies by uptake of HR and size	170
Figure 6.4	Distribution of HR and workplace technology	172
Figure 6.5	Organisational changes in the past three years	191
Figure 6.6	Distribution of workplaces by HR and performance indices	198
Figure 6.7	Human resource management policies and practices by cluster populatio	199
Figure 6.8	Performance measures by cluster	207
Figure 6.9	Cluster and market share	210
Figure 6.10	Absence and delivery performance by cluster	211
Figure 6.11	Customer influences by cluster	212
Figure 6.12	Organisational changes in past three years by cluster membership	215
Figure 7.1	Case workplace by HR and performance indices	226
Figure 7.2	Extracts from Huck interview schedule for shopfloor employees	236
Figure 7.3	HR and performance indices reviewed	287
Figure 8.1	Mapping demographic and contextual factors	300
Figure 8.2	Developed HR systems - a review of the cases	312
Figure 9.1	Differentiating HR for competitive advantage	342
Figure 9.2	The development of sustainable competitive advantage	355

1 Introducing human resource management to engineering

1.1 Introduction

It has long been recognised that people may offer much to the success of a business (Walton, 1985; Porter, 1985; Pfeffer, 1994; Barney, 1995). Academic studies, over the past twenty years, have sought to recognise the contribution that human resource (HR) practices have in the effective management of people, with emphasis on improving performance. The consequences of such research include theories and models each with a different focus. Such approaches have considered the incidence of HR within an organisation, what are the component parts of an HR system, or the role of strategic alignment of HR with other strategies. Such work has raised the profile of HR and legitimised this management approach as a potentially influential contributor to organisational effectiveness (Beer et al; 1984; Tichy et al., 1982; Miles and Snow, 1984). More contemporary work has enhanced the theoretical and empirical focus (Appelbaum et al., 2000; Thompson, 2000). Emphasis has been given to the nature of the HR system, how it is managed, and the contributions to organisational performance.

While much has been learnt from the attention given to the role of human resource management, equally as much remains unchallenged. A full understanding of these empirical gaps is saved for the following chapter, with some consideration given here to the dominant elements.

1.2 Approaches to adopting HR

Leading much of the research in terms of theoretical direction and approaches to studies are three perspectives adopted in the understanding of the nature of the relationship between HR and performance. These three perspectives, the Universalistic, Contingency and Configurational approaches, receive varying levels of support within HR research and consequentially the debate has become clearly divided between the approaches, culminating in widely differing views on HR and performance.

What is common to all three approaches is the assumed link between HR and performance. The differences rest with 'how' this link is created. Pertinent in the understanding of 'how', are the methods through which the researchers seek their conclusions. Supporting a best practice / universally accepted HR debate is a body of largely quantitative research (Huselid, 1995; Pfeffer, 1995; Wood and Albanese, 1995). The commitment to identifying a link between HR and performance is well rewarded within these studies, although the understanding of how it is achieved remains unanswered.

Investigating the potential contingencies in HR-performance relationship is a number of authors who focus on the role of strategy (Arthur, 1992, 1994; Dyer, 1984; Youndt et al., 1996; Delery and Doty 1996; Becker and Gerhart, 1996; Osterman, 1994). Again, adopting largely quantitative methods this body of evidence embraces cross-sectional and longitudinal approaches in order to capture those regarded as essential to the relationship.

Finally, there is a small number of researchers who have sought to investigate the nature of interactions within HR systems, suggesting that it is the development of unique and supportive combinations of policies and practices that add value (MacDuffie, 1995; Appelbaum et al., 2000; Patterson et al., 1996). Evidence to support the configurations of HR practices, that make the relationship with performance sustainable is limited, however, the evidence is compelling.

What remains, is a host of organisational issues that, until recently, have not been given much attention. More progressive studies have begun note-worthy discussions around influencing factors including trust (Appelbaum et al., 2000), top teams and benchmarking (Thompson, 2000). Work in these areas, which addresses the relationship between HR and a variety of organisational factors has provided unique, if albeit initial, insights into the impact that the management of high performance work systems have on the contribution of HR to performance. More work of this nature is vital in the development of a greater depth of knowledge into how HR policies and practices can develop and maintain competitiveness.

As part of the existing work into the relationships that HR policies and practices have within organisational settings Appelbaum et al., (2000) have developed a model of high performing work systems (HPWS). This model seeks to clarify the links between HPWS and employee outcomes. While offering much in the progression of the discussions, the model does not challenge many of the contextualising influences in the debate.

A further unresolved element of the HR dialogue with performance is that of diffusion (Pil and MacDuffie, 1996; Dunlop and Weil, 1996). Much of this may be attributed to a lack of understanding of the relationships within organisations, and the patterns of employee capabilities. These concepts are referred to as 'path dependency' and 'causal ambiguity'. The opportunity to investigate how elements of inimitability can be created and maintained within organisations should not be missed.

1.3 Manufacturing competitive advantage from HR

Accepting that there are a number of unresolved empirical issues within the literature raises the question about where best to research, in order to challenge the existing gaps.

Much of the previously discussed research has been conducted in manufacturing firms¹ in the US. Studies by Appelbaum et al., (2000), Arthur (1992; 1994), Ichniowski et al. (1997), and Huselid (1995) show that large manufacturing sites are an attractive resource in the study of HR. Within the UK, manufacturing firms have also received attention by authors including Patterson et al. (1997) and Thompson (2000). Manufacturing firms offer a fascinating arena in which the methods of production have the potential to lend themselves to team working, job rotation and continuous improvement.

Within this interest in UK manufacturing firms, there exists a preference in the type of research site sought. Consequently, attention has been given to the larger organisation where access and resources offer promises of productive studies.

The small and medium sized workplaces (more commonly referred to as SMEs, and recognised by the CBI as being between 0-199, and 200-499 employees respectively) have remained relatively under investigated. This set workplaces within the engineering and manufacturing sector are regarded as crucial to the maintenance of present living standards, with their influences projecting into sectors including travel, health care and education. Although their role within the UK economy ought not to be under-rated SMEs are often perceived as being financially vulnerable, and unsophisticated in employment relations terms (Goss, 1991).

As part of a wide agenda, the Engineering Employers' Federation (EEF) provides support and employment advice to engineering, manufacturing, engineering construction and technology-based industries in the UK. The EEF is a representational voice within

¹ The terms 'firm' is commonly found within the literature. Many other terms are also adopted, including 'company', 'business' or 'enterprise'. For the purposes of this research the term 'workplace' is adopted by way of reflecting that the member companies of the EEF belong, on the whole, to larger organisations. Other terms are referred to in this work where they relate to existing research commentaries.

the sector and operates with a membership of close to 6,000 companies of all sizes, employing over 900,000 people.

Along with the DTI, the CIPD and the CBI, the EEF has placed significant resource into understanding the role of HR in terms of ‘best practice’ and ‘integrated packages of practices’². As part of the process of identifying the role that HR plays in enhancing competitiveness, during its Centenary year (1996) the EEF initiated and sponsored a number of academic projects. These projects were aimed at assisting their member companies through the identification of the role of Human Resource Management (HRM) and its contribution to the competitiveness of medium sized workplaces operating in the engineering sector (MEs).

The initial phase of these centenary activities was the rigorous selection of the Work and Employment Research Centre at the University of Bath, in being commissioned to undertake the research programme. The programme involved two key projects. One was to investigate the role and implications of the payment system within engineering workplaces and the identification of contributions to performance. The other was to challenge the contribution of human resource management to performance improvements through competitive advantage, within workplaces in the engineering sector of the UK. It is the investigation of HR and competitive advantage that is the concern of this study.

Accepting that there is little known of the status of HR within medium size engineering workplaces in the UK, the purpose of this research is to investigate this initial claim. Therefore, emerging from the existing research is the first research question:

To what extent have medium sized engineering workplaces adopted human resource policies and practices?

² CBINTUC The UK Productivity Challenge – Best Practice Summary

Following this, the challenge regarding the contribution that HR makes within this sector is important, not least because the implications are far reaching, if not universal. Hence research question two:

What is the contribution that human resource policies and practices make to business performance through competitive advantage in MEs?

As part of the debate raised by authors including Arthur (1992), Osterman (1994) and Cutcher-Gershenfeld (1991) the context in which HR policies and practices are introduced is potentially influential. This leads to research question three:

Under what circumstances are human resource policies and practices most likely to be introduced into engineering workplaces in the UK?

Understanding the context and contingencies through which nominal HR policies and practices can impact on competitive advantage is raised in research question four:

Under what circumstances are human resource policies and practices successful in achieving business performance improvements through competitive advantage in engineering workplaces?

In moving the debate into the area of the configurations within the HR system of policies and practices research question five emerges:

Do human resource policies and practices appear in combinations in medium sized manufacturing workplaces?

Finally, recognising the work of Appelbaum et al., (2000), Thompson (2000), and Patterson et al. (1996), question six brings into focus the question of 'how' to make HR work.

To what extent is the process of introduction and management of human resource policies and practices critical to their effectiveness?

With these research questions in mind the construction of the thesis takes the following format:

Outline

Consideration of the three theoretical perspectives, and the conclusions from the existing research is considered in the second chapter of this work. This section outlines the current understanding in the HR and performance literature and seeks to identify the emerging gaps that exist, making specific reference to the manufacturing sector. Discussions will include the role of best practice, strategy, diffusion, path dependency and causal ambiguity. The recent work of Appelbaum et al., (2000) will be used as a framework for discussion, later referred to again in concluding this research.

What is common to the majority of the work discussed, is that the research tends to focus in the US, with Thompson (2000), Patterson et al. (1996), and Wood and Albanese (1995) as the exceptions within the UK work. Such transatlantic dominance poses challenges for those interpreting the results for a UK audience, where factors such as historical employment relations are recognized as an important element of the equation between HR and performance. The absence of a body of research evidence within the UK does not represent a lack of interest, with studies conducted in this area receiving much in the way of support.

Associated with absences, is a dearth of research from the population of small and medium-sized companies. Perhaps as a result of an inconclusive and weak literature, or due to the research problems of securing time within 'tight' production environments, there is little evidence from this group of companies. With conclusions from this area

left wanting, it becomes important to review the existing work on employment relations, consideration of which is also given in chapter two.

In establishing the most appropriate process for addressing some of the gaps that exist within the HR-performance discussions, significant consideration is required of the existing areas of research and methodologies. Recognition that methods, when studying the management of people, influence the quality of the work and subsequent conclusion is given in chapter three. Attention is given to the value of multi-method approaches and the contributions that both quantitative and qualitative methods have within this distinctive style. Having addressed the current understandings and the remaining areas vulnerable to challenges, this chapter sets in context and reports the emerging research questions that are to drive this work.

The review of existing methodological approaches in the previous chapter provides a fitting backdrop against which the research questions are then set. Chapter four develops the discussion around the methods, and introduces the approaches to be adopted, including the design and administration of a questionnaire and four cases with interview data to be combined for effective triangulation within a case study approach. Discussion focuses on the practicalities of the multi-methods approach to be adopted and provides detailed discussion as to how the research will be conducted. Following the description of how the research is to be conducted is a presentation of the results.

Chapter five presents the data from the questionnaire. A profile of the data characteristics of the sample population is given detailing, amongst other things, workplace size, status, ownership and age. The management of the companies is provided in the shape of representation, work contracts and technologies. Where possible, comparisons are made with WERS 98. This chapter seeks to provide an outline of the population for the data analysis that is provided in the following chapter six.

Chapter six outlines the preparation and process of analysis of the questionnaire data following the previously described research questions. The development of performance and HR indices, and the use of cluster analysis aids the overall data analysis, providing as it does some initial conclusions from the results. Descriptions of groups of engineering workplaces in terms of characteristics, performance and contextual changes creates a more full debate against which the case companies can be reviewed.

As part of the case approach, the in-depth data from four workplaces is presented in chapter seven, as complete workplace profiles. This data relies on detailed discussions with employees at all levels within each of the four workplaces, and uses quotes to highlight the emerging themes. Issues including management approaches, HR function and policy, and employee performance indicators are discussed in the context of each case.

Chapter eight sees the questionnaire and workplace data brought together to complete the results from the case study, and to challenge the research questions. The triangulation of data, using the quantitative and qualitative approaches, is adopted for a rigorous review of the evidence. Discussions regarding the contextualisation of HR, its combination and introduction are provided, with the analysis revealing that concepts including leadership and trust are important in understanding how HR policies and practices are adopted in companies. These concepts are then developed in chapter nine where the model of high performing work systems introduced in chapter two is revisited (Appelbaum et al., 2000). This discussion leads to the presentation of a newly defined model of HR systems and a further model of the contribution that path dependency and causal ambiguity play in the development of sustainable competitive advantage. A review of the three approaches to the adoption of HR is then provided, emphasising the strengths within the Contingency and Configurational perspectives.

In chapter 10 sees the presentation of the conclusions, from the research, set within the context of the theoretical discussions of chapter two.

1.4 Conclusions

This research aims to clarify the extent of the incidence of HR practices and their success in improving performance through competitive advantage. In establishing the incidence of HR practices an investigation of the influential factors, on uptake, will be conducted to provide some understanding as to the external contributors to the success of HR. Looking within the HR system, comment will be sought as to the combination of practices and links to performance, considered in a wider framework of the nature of changes experienced by engineering workplaces. Finally, recognising the contribution of other factors on the adoption and management of HR systems will form a unique element of this project.

2 Managing people for performance in manufacturing

2.1 Introduction

It is suggested that the relationship between manufacturing strategies, production processes and human resource management (hereafter HRM) activities can be developed to yield substantial performance outcomes (Pfeffer, 1995; Huselid, 1995; Appelbaum et al., 2000; Appelbaum and Batt, 1994; Thompson, 2000). The study of these relationships forms a fundamental part of the 'people management' literature. The developing view, in this area, is that particular manufacturing processes demand differences in the way in which people work. It has also been assumed that contemporary strategies and processes require managers and employees to view work differently by focusing on team working and employee involvement, rather than on the traditional Tayloristic approach to production (Forrester, 1995; Appelbaum et al., 2000).

The assumed relationship between performance, manufacturing approaches and HRM is discussed by a number of authors who focus on the process of introducing practices as a determinant of HR – performance success. What is revealed in these studies is a mixture of evidence providing some support for concepts known as 'best practice' (Huselid, 1995; Pfeffer, 1994), 'best fit' (Arthur, 1992; Youndt et al., 1996; Delery and Doty, 1996) and 'bundles' (MacDuffie, 1995; Appelbaum et al., 2000). A critical part of the work, by authors in this area, has been to establish the links with performance (Patterson et al., 1996; Huselid, 1995), however, in doing so many researchers have glossed over details of the relationships between manufacturing approaches and HR processes. Such studies, however, are very useful in establishing that links do exist between manufacturing, HR and performance, and in turn help to legitimise this area as a valuable field for further study. What also is

found lacking in the growing body of research is 'how' the links between these factors are created, and maintained, for the benefit of both employees and managers. Such is the nature of the gap in understanding the impact of people management within manufacturing environments that much of the contemporary debate focuses on reviewing what is commonly referred to as the 'black box' (Thompson, 1998; Thompson, 2000; Appelbaum et al., 2000).

In outlining the contribution that the aforementioned studies make to the HR – performance debate, this chapter initially seeks to provide a clear understanding of the current thinking on approaches to manufacturing strategy and the links to HR strategy and practices. What follows is a discussion about the developing role of HRM, illustrated through strategic HRM models. This discussion seeks to explore the nature of the context in which strategic decisions, regarding HR policies and practices, are taken. Having sought to understand HR and its operating context, the current views about performance and HR will be assessed.

Drawing on the work of Delery and Doty (1996), a review of three approaches that describe how HR policies and practices may be adopted within organisations, will be given. These approaches, also known as the 'Universalistic', 'Contingency' and 'Configurational' perspectives will be analysed in the context of current research. This analysis seeks to argue that while the concept of Universalistic adoption of HR has attracted much interest and support for a single HR solution to performance improvements, the theory lacks sophistication in explaining how the links are created. The Contingency approach, on the other hand, has much to offer the debate identifying, as it does, the contribution of strategy within manufacturing firms. The Configurational perspective is recognised and reviewed as a more complex, and hence difficult, theory to grasp. This approach will be illustrated and explored through a model developed from the influential work of Appelbaum et al., (2000). It will be suggested this approach offers, academics and practitioners alike, an initial insight into the opportunities that HR policies and practices offer in the achievement of sustainable competitive advantage.

Finally, this chapter will also give attention to the concept of 'path dependency' and 'causal ambiguity' by way of further identifying the role and contribution that employees have in achieving sustainable competitive advantage. In doing so a greater understanding of the diffusion of practices will be developed.

2.2 Manufacturing strategies and HR approaches

The contribution of manufacturing as a critical part of the UK and US economies, has already been credited in Chapter one. In summarising the nature of the contribution Appelbaum et al., (2000; p.2) suggests that 'It may come as something of a shock ... to learn that it is still manufacturing and goods production, not information-age technology, that fuels productivity growth', in the US. While Appelbaum et al. refer generically to manufacturing there are a variety of elements of the process that require explanation in order to understand and challenge how manufacturing can 'fuel' productivity. The following paragraphs seek to identify the differing approaches to manufacturing production, and the impact that this has on work organisation and HR practices.

Manufacturing strategies and systems are complex, however, they have been typically categorised into two broad types, each of which is recognised as operating with particular types of HR practices (Arthur, 1992; MacDuffie, 1995; Youndt et al., 1996). The principle of Porter's work (1980, 1985), that identifies generic business strategies, is commonly adopted in discussions regarding manufacturing strategies (Osterman, 1994; Youndt et al., 1996). Arthur (1992; p.489) draws on this work in defining two key manufacturing strategies and approaches to production. Arthur suggests that employers may opt for a 'cost-reduction' strategy to manufacturing production. This approach is closely associated with an HR approach termed a 'control' strategy (Arthur, 1994; Walton, 1985). An alternative manufacturing strategy to production is that of 'differentiation'. Under a differentiation strategy to manufacturing production the associated HR system is recognised as being 'commitment' orientated (Arthur, 1992; Walton, 1984). Much of the research focus

has been on the latter of these approaches with authors such as Osterman (1994), Youndt et al., (1996), and Appelbaum et al., (2000), seeking to reveal the contribution of HR within a differentiated manufacturing environment.

2.2.1 Reducing cost for competitiveness

A cost-reduction approach to manufacturing focuses on the production of low cost goods and high outputs. This is also known as 'mass production'. The production of these goods relies on dedicated production technology, with long production runs ensuring significant economies-of-scale in order to achieve profits. Lowe, Delbridge and Oliver (1997), credit the 'traditional' or 'cost-reduction' approach to manufacturing as offering high performance. Such performance gains are achieved through a repetitive production process that allows for significant levels of automation. Manual jobs in this environment are broken down into 'relatively narrow, well specified job tasks' (Arthur, 1992; p.490).

A traditional, cost reduction manufacturing strategy requires the organisation to operate with a work force of low skill, which is subservient to organisational rules and policies. In this environment employees are not required to contribute ideas on the processes of production, as the scope for improvements are limited by the nature of the technology. Where opportunities for improvement exist they are perceived as the responsibility of management. Associated with a work force that has low skills is a reduced need to engage in training activities. With low levels of training, the cost of replacing staff is low. Consequently, it is predicted that there will be poor levels of pay (Arthur 92 p.490; Piore and Sabel, 1984), with a reward system based on output measures. The cost-reduction manufacturing strategy has significant implications for the way that employees work. It is anticipated that employee motivation and commitment to the organisation will be weak, and it is unlikely that individuals will feel valued: 'management's incentive and need to engage in commitment-enhancement industrial relations activities...is greatly reduced' (Arthur, 1994; p.490). For managers the outcomes of this system of work includes levels of high labour turnover, and / or high levels of absence, which are moderated through

the low cost of labour (ibid.). Also scrap rates will be significantly high due to poor employee –technology interactions linked to unskilled employees (ibid.). Cost control in this environment is, therefore, achieved through the tight management of employees, enabling firms to compete by reducing direct labour costs, or through improvements in production efficiency. In this environment the work force is regarded as a factor of production (MacDuffie, 1995; Appelbaum et al., 2000). Recognising that traditional, cost-reduction styles of production offer only one environment in which employees are managed and where profit is a consequence of controlling labour, attention can be turned to an alternative approach to manufacturing production.

In the two decades preceding the 1980s a number of work reforms occurred, and Appelbaum et al., (2000; p.27-30) provide a particularly comprehensive review of these changes. The following paragraphs seek to focus on the impact that these work reform changes have had approaches to manufacturing production and on people management.

2.2.2 Differentiating for competitive advantage

In the 1980s globalisation of complex markets heightened the levels of competition within Western Europe and the US (Whitfield and Poole, 1997). The process of globalisation initiated a number of challenges including the exposure of the competencies that the Pacific economies have in competing with cheap labour, and competitiveness through improved computer-age-technology economies (Sparrow and Pettigrew, 1988). Other activities within Europe have produced significant changes including the shift away from ‘command’ economies (Legge, 1995). As changes in the labour market have occurred, the demands for more ethical work practices have become stronger with direct consequences on the adoption of management styles. These changes within the labour market include improved access to education and heightened expectations within an increasingly feminised and middle-aged workforce, operating largely in a tertiary economy (ibid.).

These challenges have led US and UK companies to meet the increasing demands of customers, the expectations of whom concentrate on an accepted expectation for better quality products, and delivery times (Appelbaum et al.; p.3; Whitfield and Poole, 1997). Reactions to these challenges have included the adoption of effective manufacturing strategies, investment in technological innovations and improved working methods. Specifically, reactions to the markets have led to a growing focus on small batch production processes, with shorter and faster cycle times and higher quality products (Appelbaum et al., 2000). With the variety, speed and quality of goods all increasing as a response to changing consumer demands, the production processes and organisational tasks required to meet these demands have had to alter (Dunlop and Weil, 1996). The adoption of a differentiation strategy requires the organisation to be sensitive to the needs of the market and to strive to adapt quickly to changes in customer demands for products. At the level of production, products are differentiated from those produced by competitors, with an emphasis on quality, service or a degree of 'uniqueness' (see Piore and Sabel, 1984). Appelbaum et al., (2000) propose that product differentiation, supported by innovative employment and people practices, represents a 'departure from the traditional organisation of manufacturing work', and as such has become a key approach to managing the increases in global competition (see Whitfield and Poole's Model; 1997, Appendix VII).

Whitfield and Poole (1997) suggest that within a 'high performance work system' approach, associated with the differentiation strategy, there are two elements: the production system and the employment structures. Within the production system 'flexible equipment' can facilitate a company's responsiveness to customers (Appelbaum et al., 2000). The use of advanced or computerised production technologies, such as Statistical Process Control (MacDuffie, 1995), has lead to 'the achievement of economies of scope in manufacturing' (Appelbaum et al., 2000; p.37). Within a flexible production process there is a high degree of uncertainty, due to low levels of standardisation and rapidly changing consumer preferences (Beer et al., 1984). Similarly, however, the use of sophisticated technology is supported

through skilled employees capable of programming, monitoring and influencing the machinery for production.

The needs of a flexible specialisation, or differentiation, approach to manufacturing processes are best supported by an appropriate HR strategy (Arthur, 1992; Youndt et al., 1996). The HR strategy that encompasses a 'commitment' approach to the management of people, strives to create links between the goals of the individual and the organisation through the alignment of employees' attitudes and behaviours, extracting discretionary effort during the process (MacDuffie, 1995; Arthur, 1992). It is proposed that employees are more likely to exert discretionary effort where their goals are consistent with the goals of the organisation (Schuler and Jackson, 1987), and there is some level of satisfactory reciprocity (MacDuffie, 1995).

This strategic approach, both in manufacturing and HR, relies on significant managerial commitment to the development of employees within an environment of co-operation. It also requires commitment from the employee to the organisation, which can lead to the exertion of discretionary effort. Employees within a differentiation or flexible approach assume a more central role to the system (MacDuffie, 1995; p.201). There is a number of HR policies and practices that support this central position. Huselid (1995) suggests that HR practices and policies provide the opportunity to improve the skills level in the organisation. Following the recruitment of an expedient workforce HR practices are used to maintain the level of 'added value' that employees can offer. Employees who have a broad base of knowledge and skill, and are empowered to make decisions about the process of production and thus facilitate the achievement of the manufacturing strategy (Arthur, 1992; p.491). This may be achieved through the development of functional flexibility within the work force. MacDuffie (1995) suggests that this environment encourages workers to become involved in affecting the direction of the organisation through such activities as problem identification and problem solving. Other HR techniques can be used to uphold motivation via performance appraisal, group performance and internal promotion systems (Bailey, 1993). A model of

differentiated HR proposed by Appelbaum et al., (2000), that draws together these concepts, is explored in more detail later in the chapter.

The two distinctive approaches to manufacturing production offered here are extremes. Each 'type' has been identified as being different in nature, and having theoretical links to HR approaches that are equally distinctive (Dunlop and Weil, 1996; Arthur, 1992). What occurs in the following section is a review of how the differentiation approach has come to dominate the HR research agenda, and what models of HR are useful in understanding more about the approaches that are recognised as part of this growing interest.

2.3 Modelling change in people management

By the 1980s, and with authors including Guest (1987), Walton (1984), and Purcell (1989) investigating the role of HRM in a variety of environments, the emphasis within the HR literature had begun to focus on the development of people for differentiation. Work in this area helped to draw attention to the changes within the global economy and the nature of the impact that such changes were having on people management (Purcell and Alhstrand, 1994). At the same time, and as part of the process of legitimising HRM within the wider management literature, a variety of normative models were developed. Such models, as those proposed by Tichy et al., (1982) Beer et al., (1984), describe HRM within differing contexts.

The matching model of Tichy et al. (1982), provides an interesting assessment of the role of personnel professionals in making HR strategic. While Tichy et al. (p.60) recognize that 'every organisation must develop its own answers and a tailored strategic stance in terms of its human resources', their model fails to take account of these 'strategic stances' within a wider organisational context of influencing factors. Beer et al. (1984), in essence, develop the work of Tichy et al. in their Harvard model, which identifies work force characteristics, labour market, Unions and management philosophy as part of the HR context. Whilst prescriptive in nature

(Noon, 1992; p.20), this model successfully identifies that HRM is not independent of internal and external organisational factors. These models are useful in identifying HRM as a central vehicle for enhancing competitiveness, however, their very nature and simplicity leaves a gap in the understanding about how HR contributes to performance.

In the early 1990s, discussions regarding the contribution of HR became two-dimensional with the introduction of the soft *and* hard approaches to people management (Storey, 1992). Soft HRM, also known as 'developmental humanism', recognises people as key organisational assets, to which there are high levels of investment made through development activities such as training. Such investment, it is suggested, leads to high levels of employee commitment, quality and adaptability. Employees have the capabilities to be proactive in addressing change and problem solving, which is facilitated by high levels of trust and collaboration via participation and informed choice. There is a strong emphasis on effective and open communications, leadership and motivation. The soft approach to people management forms an important foundation on which many of the policies and practices, that will be discussed later, rest. Accepting that people can be used as part of a value-adding resource, it should be noted that the adoption of a soft approach to people management might be most effectively executed in the light of the hard approach.

The hard approach, also referred to as 'utilitarian instrumentalism', emphasises the close integration of HR policies and practices with business strategy (Storey, 1992; p.27). This approach to people management has the capacity to operate independently of the soft approach, where Just in Time (JIT) or Total Quality Management (TQM) provide an effective framework of work systems, within a lean approach to manufacturing. The soft approach, however, is effective only when supported by the strategic framework of the hard approach (Arthur, 1992; Delery and Doty, 1995), thus proposing a synergistic relationship, and not one of mutual exclusivity (Hendry and Pettigrew, 1986). Also critical to this model is the recognition that there is a need for internal and external consistency (ibid.). Also

known as 'fit', this concept will be discussed in later sections under the approaches to the adoption of HRM.

Appelbaum et al. (2000) in agreement with MacDuffie (1995) suggest that employees' discretionary effort, recognised by employers, has become dominant in the past sixty years. The interest in employees' effort and the role that it may play in improving organisational performance, has led to work reformations. Appelbaum et al., (2000; p.26), recognise that discretionary behaviours are difficult to elicit within a traditional style of management, where hierarchies and status barriers limit the opportunity for involvement and innovation (Ramsay, 1977). The value of the employee within an organisation has been increasingly linked to performance improvements, with recent models of HR seeking to identify how these links are created and managed. Performance, within the HR and people management field, is a particularly interesting but complex element of the employment relationship. A more clear understanding as to whether HR and performance interact, and how best to proceed with researching in this area, is required.

2.4 Challenges within the performance – HR relationship

Much of the attention paid to human resource management has focused on the contribution to performance, impacting on theoretical and empirical contributions to the debate. Consequently performance stands out as a significant organisational goal within much of the modelling of HR (Appelbaum et al., 2000; Guest, 1989; Beer et al., 1984). Many authors have commented on the existing gaps in the understanding of the relationship between HR and performance (Becker and Gerhart, 1996; Delery and Doty; 1996; Whitfield and Poole, 1997; Sparrow and Marchington, 1998). Wright and Gardner (2000) have stated that 'no consensus exists regarding the ways in which HR might impact firms outcomes' (p.2). In unpicking this statement the authors propose two theories regarding the nature of the relationship between HR and performance, identifying through their discussions some

unchallenged issues. The presentation of these arguments is done in the absence of definitions of performance which are saved for the following chapter.

2.4.1 Theoretical challenges

The work of Appelbaum et al., (2000) considers the contributions that the Human Relations and Group Relations approaches make in understanding people and performance. The authors reference the impact of the Hawthorne Experiments and the schools of Mayo, McGregor, Argyris and Maslow (p.27-32) to cooperation, participation, motivation and self-actualisation to performance. Such references are useful in identifying the role of individual, and groups of workers, and their contributions to exerting effort for the organisation through generic work approaches. Other attempts to identify the contribution of HR to performance have provided guidance through the identification of how individual HR practices influence factors such as skill and knowledge, motivation and commitment (MacDuffie, 1995; see Appendix II). Such identifications are again useful, but leave a gap in the understanding of the nature of the relationship.

Wright and Gardner (2000) suggest that much of the modelling around identifying what occurs in the 'black-box' in the HR and performance debate relies upon a 'linear causal process'. While differences exist in the types of models offered by authors the linear causality debate suggests that performance outcomes are a consequence of the adoption of HR policies and practices. Wright and Gardner (2000) report that there are a number of challenges within the linear relationship as 'the potential for additional complexity is virtually infinite' (p.6). Additional complexities include employee behaviours, skills, motivation, strategy implementation, and more recently discretionary effort and trust (Appelbaum et al., 2000). Such factors render a linear relationship naive.

2.4.2 Causality within HR and performance

The authors, Wright and Gardner (2000), also consider the concept of 'reverse causation', which proposes that HR policies and practices are more likely found in those organisations that are high performers (Whitfield and Poole, 1997). As such this turns on its head the assumed wisdom that it is HR policies and practices that influence performance. This theory proposes that the contribution of HR is not as a source of added value, but as a means by which to maintain the existing high levels of performance enjoyed by successful organisations. Human resource policies and practices become, therefore, the tools of management through which economic downturn is moderated, and performance is maintained. This argument is coherent with the concepts of investment raised by Pil and MacDuffie (1996). Should this approach be accurate it predicts that the contribution of HR is to enhance an organisations' ability to survive within a challenging market, rather than to create performance improvements.

In developing the reverse causation debate, it may be possible to suggest that although high performing companies may be more likely to adopt HR practices (due to the ability to invest), these organisations may *benefit* from the adoption of such practices and hence *further improve* their performance, thus complicating the nature of the relationship.

Measuring causality is made more difficult due to the various measures that can be adopted for research purposes. For instance, Wright and Gardner (2000) suggest that the measure of 'operational performance' is complicated by the possible elements e.g. scrap, customers satisfaction or quality defects (p.6). Such variety suggests an infinite number of inter-relating variables within the HR – performance relationship, making a mapping process unhelpful in the understanding the relationship. Indeed such detailed mapping can only be successful in identifying how HR contributes within a single organisation, and within a limited time frame. With the complications of the causality debate unresolvable, according to the authors, they

offer up a further challenge to the nature of the relationship in their discussion of the 'implicit theory'.

2.4.3 Empirical challenges – an implicit relationship?

At the empirical level the evidence appears to support a link between HR and performance with studies including those by Huselid (1995), Thompson (2000), Delery and Doty (1996) providing evidence of HR policies and practices operating in an environment where performance is superior. Concise and comprehensive summaries of these studies can be found in work of Becker and Gerhart (1996) and Baker (1999). However, Wright and Gardner (2000) question the presence of any link, except in the mind of those who wish to see it.

Referring to the work of a number of researchers Wright and Gardner (2000) suggest that the performance - HR link is due to 'subject bias and not empirically true relationships' (p.8). Therefore, the suggestion is that there is no fundamental relationship between HR and performance, and that the relationship, reported through the studies such as those of Huselid (1995), Thompson (2000), Delery and Doty (1996), are due to the assumptions made by the questionnaire respondents. Such vulnerabilities, within the questionnaire approach, have been addressed at a theoretical level by a number of authors (Richardson and Thompson, 1999; Arthur, 1992; Osterman, 1994), with researchers including Arthur (1992), Huselid (1995), and MacDuffie (1995), taking action to moderate the possibility of biased reporting of HR policies and practices.

Such a theory is interesting as it brings into focus a variety of factors regarding the links between HR and performance, and raises empirical challenges within the current body of research. It may be argued that HR and performance has no positive relationship, and yet the existing body of empirical evidence finds something interesting occurring within companies that claim to operate with high levels of HR and performance. What the implicit theory does, therefore, it drives the researcher to consider why employers *believe* that HR policies and practices have a positive impact

on performance, where this is reported. In considering why assumptions exist that a relationship is positive, it may be possible to more fully understand whether the relationship is being created through this perception. The work of Thompson (2000) and Appelbaum et al., (2000) is useful in this regard where the use of in-depth interviews with trade union representatives and shop floor employees have sought to challenge or reinforce questionnaire data.

Wright and Gardner (2000) provide a somewhat damning view of the reasons why HR and performance has become a dominant element of the people management field. They argue that 'a weak relationship between HR practices and firm performance has provided ammunition for HR practitioners to justify their activities as having an impact on the bottom line' (p.10). The arguments regarding 'reverse causality' are persuasive, and should aim to encourage further research to focus on *why* managers adopt HR, and what is the nature of the relationship with performance. Whether this leads back to the participation and motivational theories of Mayo and Herzberg, has yet to be fully explored. The conceptual challenges of performance are not unique to the work of Wright and Gardner, with the following sections highlighting the various definitions of human resource management and the links to commitment and performance.

2.5 Work organisation and HR – contemporary definitions

In discussing work organisation, Osterman (1994) comments that the problem of definition is 'exacerbated by the fact that firms that we might all agree are examples of flexible work organisation nonetheless exhibit somewhat different practices' (p. 176). This statement raises the question as to what does work organisation entail in terms of manufacturing and HR practices. As the theories of HRM have developed and changed over the past twenty years a number of new terms have been conceived that seek to describe concepts with underlying similarities. The variety of terms emphasises the vagueness highlighted by Osterman. The following sections aim to provide the current terms adopted within the literature. This is followed by

descriptions of the types of HR policies and practices considered within current research.

High Performance Work Systems (HPWS) is the term that is much favoured within the American research literature. Pfeffer (1994) and Huselid (1995) adopt this term emphasising, as is discussed later, the concept of performance. Becker and Gerhart (1996), in their review of the HR and performance research, and Thompson (1998) in his study into the HR practices of the UK aerospace industry, also adopt this expression. More recently in the work of Appelbaum et al., (2000) HPWS are reviewed and studied making for a convincing argument as to the benefits of a systematic approach to the adoption of manufacturing and human resource processes.

High Involvement Work Practices (or Systems) reflects the concept of involvement as an important element within the HR philosophy and is a term adopted by MacDuffie (1995), and Pil and MacDuffie (1996).

Human Capital-Enhancing HR Systems is a term not commonly used but reflects the investment in 'people' as a critical source of advantage (Youndt, Snell, Dean and Lepak, 1996).

Innovative Work Practices is favoured by Ichniowski et al. (1996), and by Osterman (1994), placing less emphasis on the 'people' element and more on the 'manufacturing / work' system.

Arthur (1992) adopts *Commitment Maximising Industrial Relations Systems* in his studies into control and commitment strategies, and approaches to personnel within US Minimills.

High Commitment Management tends to be favoured within the UK literature into people management and performance. Authors (Wood, 1995; Wood and Albanese, 1995) have adopted this expression taken from Walton, as early as 1985. The term reflects the fundamental elements of the soft approach to people management,

identifying with the concept of commitment, which is discussed later in terms of performance.

Interestingly Whitfield and Poole (1997), identify that the 'high performance' element of the approach is related to the *aim* of the system rather than the achievement, arguing that the 'effectiveness' of such systems requires much further investigation (p.745). Accepting that there are a variety of terms adopted, that seek to reflect the activities of organisations operating a differentiation approach to manufacturing, and associated HR policies and practices, the underlying concepts are the same. The next section aims to reveal the nature of the policies and practices that have been reviewed within organisations through existing research. The discussion then moves to develop an understanding of how elements of a manufacturing process drive HR policies and practices, and how elements of soft HRM work together to enhance performance. Appelbaum et al., (2000) provide an interesting model which is born out of existing research and theory, that turns a list of HR policies and practices into a potential 'system'.

2.6 Developing an HR system – reviewing policies and practices

The following paragraphs offer a linear presentation of the commonly accepted HR practices that are suggested to have links to organisational performance (Arthur, 1992; MacDuffie, 1995, Youndt et al., 1996; Delery and Doty, 1996). This section does not seek to explain how these practices form a system, as this will follow on from the initial discussion of the individual policies and practices. However, the section aims to present the contribution of each practice within the existing research agenda.

Authors including MacDuffie (1996), Youndt et al. (1996), Huselid (1995) and Thompson et al. (2000), recognise the importance of recruitment and selection procedures within the HR-performance debate. Effective recruitment and selection processes enable a company to select employees who display trainability and

commitment to the company (Pfeffer, 1995; p.34), and are able to work autonomously in a team setting, using creative thinking. These competencies can be reviewed using a variety of techniques including dexterity tests and psychometrics.

Following on from the recruitment and selection of employees an HR philosophy supports the development of individuals and groups of employees through the use of training; through induction or initial training (MacDuffie, 1995), and 'on' and 'off the job' training (MacDuffie, 1995; Huselid, 1995) for differing groups of employees. Employee development seeks to not only, elicit performance improvements through job specific training, but to develop the employees' ability to learn to be adaptable, to innovate, and to manage and influence change. The development of such skills is critical to the execution of a differentiation strategy.

Consequently, a company can operate with a highly skilled work force, which has the capacity to contribute significantly to making organisational improvements. This capacity is best employed when the organisation of work is not highly structured, offering the opportunity for employees to utilise their skills. The utilisation of skills is facilitated through HR practices such as employee participation in decision-making, which help to engage the employee in further determining the organisation of work enhancing, in turn, their autonomy (Ramsay, 1977; Poole, 1982; Marchington et al., 1993). Participation through problem solving activities also forms an important role in making relevant the skills and knowledge gained through training. Quality circles, Kaizen and continuous improvement workshops are identifiable as processes through which employees can practically influence the future direction of work (MacDuffie, 1995; Arthur, 1992; Cutcher-Gershenfeld, 1991).

Participation is made more effective through the adoption of extensive formal and informal communication networks; suggestion schemes (MacDuffie, 1995), attitude surveys (Huselid, 1995), yearly appraisals (Huselid, 1995; Youndt et al., 1996), which provide the means to engage in employees' ideas, concerns and recommendations.

A further consequence of operating with a skilled work force is the need to adopt a flexible approach to job design and flexible job descriptions. The concept of job design has attracted much attention (Arthur, 1992; Delery and Doty, 1996; Guest, 1987; Thompson, 2000), with significant emphasis placed on the role of job design in creating multi-skilled employees, and high job performance. Jobs that are designed to satisfy self-actualisation needs, inherent within all individuals, may enhance satisfaction and organisational performance (Schein, 1980; cited in Appelbaum et al., 2000; p.30). Job design is supported through the adoption of flexible job descriptions where employees, with a variety of knowledge and skill based attributes, have the freedom of opportunity to use them in different organisational roles (Whitfield and Poole; 1997; p.748). Such an approach is aided through activities such as job rotation, where employees can move between roles using different skills, learning new ones as they do so (MacDuffie, 1995).

In turn, team working supports the movement of employees within the production area, where employees operate in a hierarchy-free structure (Osterman, 1994). Teams, as a reflection of groups, are 'necessary for satisfied workers' (Appelbaum et al., 2000; p.28). Self-directed teams, where the control of workflow is conducted within the team and without any managerial input, offers autonomy through self regulation of quality checks and work schedules. In the absence of an authoritative figure the team exerts self-discipline and control over team members (Pfeffer, 1995). This approach provides employees with more control over their role and the level of work completed. Working in this environment ought to lead to higher levels of motivation (Banker et al., 1996; MacDuffie, 1995; Arthur, 1992; Cutcher-Gershenfeld, 1991), although uncertainty regarding role may also result (MacDuffie, 1995). Marchington and Grugulis (2000) provide a particularly detailed assessment of the concept of teams, and challenge the benefits as ideological by considering issues such as job enlargement and increased employee stress as consequences of the intrusive nature this form of working (p.1110).

Within the list of HR policies and practices other motivating factors are considered. These are important as, without motivation, it becomes less likely that employees will work to perform at a higher level (Lowe et al., 1997). Motivating processes include the adoption of a policy for internal promotion. Internal promotion provides a structure of support for those employees who, having been trained, are able to perform to a satisfactory level and have an opportunity to proceed within the company (Huselid, 1995; Delery and Doty, 1996). Particularly in organisations where there has been a flattening of the hierarchy, internal promotion can prove to be a motivating incentive to continue to perform well. Such an approach focuses on the input to the organisation by the employee.

This list of HRM policies and practices appears, at first glance, to be comprehensive. However, a closer review of the literature indicates that a number of practices are the focus of an on-going debate as to their relevance. The role of reward and benefit schemes remains an uncomfortably undecided factor within the list of practices. Incentive or contingent pay schemes such as bonuses, profit sharing or merit pay have been addressed by a number of authors (MacDuffie, 1995; Huselid, 1995; Arthur, 1992; Youndt et al., 1996; Delery and Doty, 1996). However, the relationship between pay and performance within the HR debate rumbles, on without any clear guidance as to its role (Baker, 1999; Wood and Albanese, 1995; Beer et al., 1984). Challenges in this area include the potential contradictions of attempting to reward employees for intangible behaviours and attitudes such as commitment and motivation.

The debate becomes more tangled when addressing the issue of job / employment security. Delery and Doty (1996), in their questionnaire-study of one employment group within a US Bank, showed that high levels of employment security is linked to organisational performance. They suggest that greater employment security produces a degree of alignment between the interests of the employee and the employer, thus developing a reciprocal commitment (p. 826). Somewhat more specifically, Ichniowski (1992) investigated the role of a 'job security pledge', guaranteeing no job losses linked to the *introduction* of new employment practices.

He found that where employees experience the fear of job loss, performance levels are not enhanced (p.255). It appears that the role of job security is superseded by the benefits that multi-skilling may offer employees in terms of their future 'employment security', where the insecurity of new systems of work and HR practices is traded against the development of new skills offering the individual transferable skills making him / her more employable. The role of job security remains a complex factor within the debate, one that interacts closely with other HR policies and practices, and external factors such as the labour market. MacDuffie (1995) and Osterman (1994) argue more strongly that the contribution of employment security on improving flexibility is not significant, while Marchington and Grugulis (2000) suggest that job security may be 'best' only for the organisation, with employees becoming vulnerable as they act as a financial buffer.

Other, less well-researched HR activities that have been levelled at influencing organisational performance include: the reduction of status barriers (Arthur, 1992), conflict resolutions (Arthur, 1992; Cutcher-Gershenfeld, 1991) and the engagement in social activities (Arthur, 1992). These activities may provide some interesting insights into the philosophy and development of a high commitment culture within an organisation.

There are a variety of policies and practices that are recognised as making a positive contribution to the employment relations within companies. This set of policies and practices remains at the centre of the debate with authors searching to find whether performance improvements rely upon the adoption of a core of policies and practices, or whether a single technique is sufficient. Although there is some initial agreement as to the make up of the core, there are activities that sit at the periphery, being the subject of debate as to their contribution (Purcell, 1997; Pfeffer, 1994).

2.7 Theoretical approaches to the adoption and diffusion of HR systems

This section discusses the various theoretical propositions that seek to identify how, the previously discussed HR policies and practices, may be selected and implemented within organisations. The three models referred to include firstly, the 'Universalistic' approach, which proposes 'best practice' HR. Secondly, is the Contingency approach, which suggests that it is the concept of external fit, with organisational and environmental factors that influences performance improvements. This approach is known as 'best fit'. Finally, the Configurational approach will be introduced that offers much in the understanding as to how HR policies and practices may contribute to organisational performance through unique combinations of HR policies and practices. This approach, initiated by MacDuffie (1995) and developed by Appelbaum et al. (2000), suggests that it is the 'internal fit' of individual HR policies and practices that offers an organisation sustainable competitive advantage. It will be argued that it is the interactions of fit; both internally and externally, that offers a comprehensive understanding on how organisations manage HR for advantage. In doing so it will be recognised that these interactions are particularly complex in nature, with implications for particular methodological considerations discussed in later chapters.

2.7.1 Universalistic Perspective

The Universalistic Perspective is the simplest form of theoretical statement, as it suggests that the 'relationship between a given independent variable and a dependent variable is universal across the population of organisations' (Delery and Doty, 1996, p.805). In other words the adoption of HR practice(s) e.g. team working, within an organisation will lead to improvements in performance regardless of the organisational size, age, level of technology, or the sector in which it operates. Supporting this perspective of 'best practice' are those who propose that particular policies and practices are superior to other practices (Delaney, Lewin and Ichniowski, 1989; Huselid, 1995; Pfeffer, 1994). The Universalistic approach assumes,

therefore, that performance can be achieved through the introduction of HR practices, regardless of the organisational context. Such failure to recognise that certain firms will not be capable of adopting HR practices renders such a theoretical approach as ineffective in examining *how* firms make decisions about HR. This level of ineffectiveness is also recognised through later discussions around diffusion.

Interestingly, and competing directly with advocates of this approach, an inspection of the research fails to reveal a consistent set of practices that have been researched to enable a conclusion, regarding Universality, to be convincing (Delery and Doty, 1996). For instance the high performance work practices identified by Pfeffer (1994) include participation, empowerment, incentive pay, employment security, internal promotion, and training and skill development, whilst Osterman (1994) identified 'best practices' as including teams, job rotation, Quality Circles and TQM.

What the Universalistic approach has been successful at achieving is a legitimisation of HR as a tool that can add-value and enhance performance in organisations. By taking a simplistic equation (where HR practices equal performance improvements), advocates of this approach have focused attention on the contribution that can be made through the adoption of HR practices (Huselid, 1995; Pfeffer, 1994).

However, increased publicity is not sufficient to recognise this approach as the leading theory in the role of HR. What the Universalistic approach offers is a very simple equation, and researching this equation under the Universalistic theory, provides an unsophisticated answer, that lends nothing to the understanding of *how* performance is affected, through managers, employees and trade unions alike (Lowe, Delbridge and Oliver, 1997; Marchington and Grugulis, 2000). The Universalistic approach fails to address the concept of an HR system, which is coherent and complementary. It proposes that a set of, as yet undecided, policies and practices will guarantee performance improvements, and the very fact that not one practice or set of practices has been commonly hailed as being transcendent weakens the argument. In denying the role of business and manufacturing strategies in the decision making process (as to the types of practices required) the approach isolates HR within a dynamic and changing environment. To deny the individuality of

managers' styles, employees' skills, company characteristics and their markets is at best a case of positive thinking, and at worse misguided. The consequences of such misguided assumptions have led to a general lack of diffusion of HR practices across a number of industries (Dunlop and Weil, 1996; Ichniowski, Kochan, Levine, Olson and Strauss, 1996; Thompson, 2000) and a feeling that 'We have been misled by a few well publicized cases' (Osterman, 1994; p.186).

2.7.2 Contingency Perspective – placing HR in context

The Contingency Perspective is more complex than the Universalistic approach (Delery and Doty, 1996). It proposes that improved performance is the result of a level of interaction between organisational variables, which include HR policies and practices (Frombrun et al., 1984; Dyer, 1984; Schuler and Jackson, 1987). Such a proposal recognises that HRM is dependent upon a variety of factors and does not operate independently of the organisational setting, where fitting two variables together creates a 'synergistic effect' (Wright and Gardner, 2000; p.11).

Dunlop and Weil (1996; p.354) state that any 'analysis of human resources systems must be embedded in an understanding of the environmental factors' that firms face. Appelbaum et al., (2000) support this by suggesting that 'even if participation could be successfully implemented it would increase performance only under some technological and market conditions. Under other conditions traditional organizations would be superior' (p.36). This recognises that within a firm all factors may contribute: 'the wider context in which plants operate have a crucial bearing in the plant's manufacturing performance' (Lowe, Delbridge and Oliver, 1997; p.785). Factors such as information technology, labour markets and customers may enhance or diminish the opportunity to improve the performance of the organisation (Appelbaum et al., 2000; p.11). HRM is one of only a number of contributory elements.

The Contingency approach, therefore, describes HR as a dependent variable, operating within a wider framework of organisational issues. Although 'strategy'

has provided the central tenant of many of the studies conducted within the contingency school, it has received some criticism (Wright and Sherman, 1997; Wright and Gardner, 2000). Other factors such trade unions and work force characteristics are credited with playing a pivotal role in developing the link between HRM and performance (Marchington, 1998, p.222). This is commonly referred to as 'vertical fit'. Other organisational factors that are recognised as being relevant in this debate are reviewed as influencing factors that impact on the *uptake* of HR practices. These include organisational size, age, and status. While these are somewhat separate issues, they form much of the same debate where it is the interaction with organisational variables that plays a key role.

There is much to be learnt from the Contingency approach, with many of the elements discussed in the following paragraphs having significant relevance within the Configurational debate also. The following paragraphs address the various factors that are alleged to influence the uptake, and impact on performance, of HR within organisations. As the sections develop, links with the previously described list of HR policies and practices emerge providing further clarity as to their nature and role. Existing empirical evidence will also be referred to, where appropriate, in the development of the debate.

The work of Osterman (1994) and Arthur (1992) initially provided the most significant contribution to identifying the key variables affecting the uptake of human resource management practices and policies. However, much of the evidence in identifying factors is limited, leaving much still to be done in order to effectively challenge the perspective.

2.7.2.1 Organisational factors and business performance through HR

Strategy. The role of strategy within the HRM field is well documented (Boxall, 1992, 1994; Purcell and Ahlstrand, 1994). It is not the purpose of this chapter to investigate the theory and nature of strategic HRM, it is sufficient to say that as an established and, therefore, recognised school of thinking the strategic debate extends well beyond the boundaries of the studies that will be referred to in the next section.

Business strategy is recognised by a number of authors in the Contingency debate (Thompson, 2000; Arthur, 1992; Youndt et al., 1995; Delery and Doty, 1996). Osterman (1994) and Arthur (1992), identify strategy as the only variable that has the capability of identifying the types of HR policies and practices adopted within organisations, whether they are cost-reducing ('low road' according to Osterman) or commitment inducing (or 'high road', *ibid.*). As Arthur states in concluding his study 'As predicated, mills with low-cost strategies were more likely to have control human resource systems, and mills with differentiation strategies were more likely to have commitment human resource systems' (1994; p.677). Similarly, Ichniowski's 1996 study focuses on work force flexibility, as a reflection of 'manufacturing strategy', and the positive influence on productivity. Reflecting the early work of MacDuffie (1995) and Osterman (1991), Ichniowski's study shows that the move to address flexibility with the manufacturing processes influences the type of HR practices adopted (Arthur, 1992). Osterman's work also provides clear evidence that 'a number of the HRM practices are indeed related to the adoption of flexible work practices' (p.184), representing a comprehensive approach to factory practices, work systems and human resource management (Lowe et al., 1997). Osterman's work find support in the conclusions of Youndt et al., (1996) who argue that 'maximising performance appears to depend on properly aligning HR systems with manufacturing (1996; p.853). As an example of this comprehensive approach Osterman (1991) suggests that the links between flexible work practices and HRM practices are seen most clearly in skills development and training: off the job training, cross training, pay for skill, profit sharing bonus and employment security.

Contributors to this approach have been critical of the level of understanding that the role of strategy has in mediating the relationship between HR and performance (Lengnick-Hall and Lengnick-Hall, 1988; Dyer and Reeves, 1995; Wright and Sherman, 1997; Wright and Gardner, 2000). Wright and Sherman (1997) attribute the deficiencies in the empirical work to 'problems in the theoretical treatment of the constructs and models of fit, and in the empirical operationalization and analysis of

it' (p.2). While these issues remain unresolved the opportunity to effectively identify what strategy is, and how it mediates HR and performance, is limited.

Task flexibility and technology. Referring to the work of Perrow in the 1970s, Appelbaum et al., (2000; p.36), note the principles of the relationship between technology, and the work systems and tasks that follow. It is suggested that tasks within an organisation are influenced, primarily, by the variability of the production task i.e. the level of differentiation (Whitfield and Poole; 1997). Where simple tasks work effectively within a traditionally organised firm, employees are not required to engage in innovative thinking or problem-solving. In contrast where tasks are varied, and the production processes are differentiated and flexible, the role of the employee becomes central to the system of production, with management relying on the skills and knowledge of the employee to make changes and improvements (Perrow, *ibid.*; Osterman, 1994; p.179). Arthur (1992) supports this assumption in his proposition that commitment systems require more skilled employees with a high level of functional flexibility.

Some of the HR policies and practices associated within a 'high road' manufacturing approach include levels of sophisticated technology and high-skill development including training, job rotation and flexible job descriptions (Osterman, 1984). Within this environment the role of employees' discretionary effort is not just important but 'superior' (Appelbaum et al., 2000; p.36). Interestingly Bailey (1993) has challenged the assumption that different types of technology are necessary for different work organisation, suggesting that 'the same technology can be used in both the hierarchical mass production model, associated with deskilling, and the greater employee involvement model, requiring workers with greater cognitive, social and technical skills' (p.31). This belief questions whether technology is an important element of the HR debate. However, if the adoption of the same technology is possible, within differing work systems operating under different manufacturing strategies, the question becomes: how do the cognitive, social and technical skills of employees contribute to effectiveness and competitive advantage?

Trade unions. Interestingly Arthur refers to trade unions as 'favouring many aspects of the Commitment maximizing industrial relations system', including higher wages and benefits, shopfloor decision-making and formal complaints / grievance procedures (p.502). The implication is that the presence of a trade union is unlikely to inhibit the introduction of HR policies and practices where a partnership approach is taken (Osterman, 1994). Arthur suggests, however, that trade union presence is *not* a prerequisite for a commitment approach, as the processes of human resources must be negotiated within management. It may be argued that in contemporary organisations, union activity has, at worst, no impact on the uptake of innovative HR practices, and at best facilitates their introduction, through effective communications and employee negotiations.

Management style and philosophy. As Appelbaum et al. (2000) intimate that, albeit not explicitly in their model, management style is a key element in improving performance through HR. Commenting on the challenges that a human resources system of worker empowerment and autonomy present to management, Appelbaum et al., (p.8) suggests that this will only be introduced 'as a matter of economic necessity'. This presupposes that managers, within the US are fundamentally opposed to employee involvement and are drawn to it for the purposes of economic survival. It may be assumed that this view of managerial prerogative gives philosophical prominence to a management approach akin to the Taylorist school, where work conception and innovative is separated from execution. However, Appelbaum et al., (2000), comment on the move away from this management approach and, in defence of their argument, they suggest that the new methods of working seek to 'replace the mistrust that characterizes many traditional factory settings with the mutual trust and confidence that facilitates the functioning of a HPWS' (p.8).

It is the concept of trust that forms much of Appelbaum et al.'s (2000) understanding as to how HR impacts on performance by the way in which HPWS impact on employees. They state that 'a high degree of trust may benefit employers and employees equally: high trust is likely to encourage the employee to work hard on the

organization's behalf and is apt to lead to more positive outcomes for the individual, such as high satisfaction and low stress' (p.166). The role that *levels* of trust plays is interesting, where low trust may inhibit the introduction of HR via conflict, or low trust may be an antecedent to employee insecurity about potential job loss, enabling management to 'push through' new practices (Pil and MacDuffie, 1996). Reviewing levels of trust Cutcher-Gershenfeld (1991), and Ichniowski (1996) consider the concepts of distrust and conflict within organisations, and the impact on performance. They each state that improvements in the efficiency of production processes are highly improbable, within an atmosphere/culture of 'distrust and adversarial relations'. Ichniowski, citing his work with Shaw in 1995, attributes improvements in economic performance to a shift in labour-management from conflict to cooperation thus highlighting a shift in the level of trust, as a key factor in the change. Ichniowski's study of the adoption of attitude surveys, and 'listening sessions' to identify 'worker complaints and eliciting suggestions on ways to improve work life and mill performance' shed some light on the transference of the concept of trust towards HR practices (1996; p.245). The work of Marchington (1998) is supportive of Ichniowski which suggests that communications processes of this nature can make a difference to the *climate* within the organisation, he states, 'It provides striking evidence that HR policies and practices can affect indicators of an establishment's labor relations environment as well as its economic performance.' (p.247). The development of trust within relationships is complex and time bound with Ichniowski suggesting that '... a long and expensive process may be required to establish trust' (p.256), which develops the idea of 'Performance as a process and not a state' (Whipp, 1992; p.57). To investigate such intangible concepts 'we will always need detailed qualitative studies that can observe hard-to-quantify data and can shed light on crucial details of how to implement innovative practices successfully' (Ichniowski et al, 1996). In doing this Ichniowski's question (1992 p.255): 'why and when did workers begin to trust management and offer their productivity-enhancing ideas?' may be addressed. Finding an answer to this question may also reveal why the diffusion of HR policies and practices may be limited within organisations, and consideration is given to this in the following chapter.

In his UK Aerospace study, Thompson (2000) identifies 'leadership' as an important feature in the differentiating process. He argues that the development of a 'top team', which operates with values and attitudes that are able to drive HR policies and practices for organisational change, are likely to enhance the uptake, and diffusion of practices.

Labour / Market environment. Ichniowski et al. (1996; p.302) state that the 'external context' of policies and practices adopted in a company are related directly to the product market and the level of flexibility required. Therefore, the adoption of highly flexible work practices in a stable market may become a source of disadvantage. The development of these links can be seen in Osterman's research (1994), which pays particular attention to the nature of the firm's environment and the influence that this has on the uptake and operation of HR techniques. He suggests that where firms are under pressure from customers, or investors, to produce short-term profits, the opportunities to invest in innovative or flexible work practices may be inhibited. This is due to the reduced opportunity to transform work systems that require long-term investments.

Similarly, the assessment of team production systems within the apparel industry by Dunlop and Weil (1996), reports that it is the demand for 'suppliers to respond to more stringent retail delivery standards' that has increased the role of modular assembly (p.335).

There is, however, a substantial volume of literature focusing on the supplier-customer relationship (Lee and Billington, 1995; Beaumont et al., 1996; Lane and Bachmann, 1996), highlighting its changing nature over recent years. The new position being adopted by firms places emphasis on a closer, more integrated and co-operative relationship. The consequence of this is that the concept of inter firm 'trust' has been pushed to the fore of academic debate by Lane and Bachmann (1996) and Beaumont et al. (1996). Partnership working facilitates trust, where each party within the supply relationship is committed to common goals of quality, innovation,

right-first-time production for high productivity and competitiveness. Such approaches are likely to have particular pertinence within the medium-sized enterprise (ME) debate and will be given greater attention later in this chapter.

Osterman's (1994) work considers a further dimension of the market debate, suggesting that where *foreign* competitors exist in the market, the greater the likelihood that 'new ideas and practices' will become common. Where levels of competition are raised pressure is exerted on the firm to adopt the most efficient production system. While this may be a cost-reduction *or* a differentiation system the exposure to a market focused on quality and services has the potential to encourage, or force, firms to consider new ways of working. Hence, foreign competition is proposed to increase the use of flexible work systems. The empirical evidence from Osterman's study does not support these propositions.

Foreign competitors and supply chains may form an important element in the HR systems debate, however, it is the immediate environment of the firm that plays a critical role in the opportunity to improve performance. The nature of the labour market, in terms of skill availability and trainability influences the adoption of HR practices and the subsequent reward of employees. These issues reflect the complementarity and substitution debate raised by Appelbaum et al., (2000), and are explored through this discussion.

2.7.2.2 *Organisational factors and the uptake of HR practices*

Organisational status. Particularly pertinent in the ME debate is the 'independent' company (where a company is independent of a larger organisation/parent company). It is suggested that an independent company may experience a lack of financial resources on which to draw, for the implementation of new practices, thus reducing the uptake of HR practices that require investment (Osterman, 1994). It is also suggested that belonging to a larger organisation offers the opportunity to engage in long-term HR objectives.

Age. Drawing on the work of Kochan, Ichniowski and McKersie, Arthur (1992, p.502) recognises that the age of a site may have some influence on the uptake of commitment – maximising systems, where new firms with new cultures provide an environment into which new HR policies and practices are more readily introduced. Research into this ‘Greenfield’ factor is varied, with Guest and Hoque (1996) highlighting that the phenomenon of ‘new’ sites engaging in more HR practices may not be limited by company age, with the ‘Brownfield’ offering similar opportunities to engage in some aspects of high commitment management.

Size. The organisational characteristic of size is a debate that has a number of contributors from both the HR field, and the small and medium sized enterprise field. The conventional wisdom about size is that a small firm is likely to experience difficulties in introducing HR policies and practices, due to a lack of resources (Goss, 1991), with larger firms investing more (Thompson, 2000; p.18). However, the conclusions around the impact of size on the uptake of HR policies and practices are varied. While Arthur (1992) purports that the size of an organisation is likely to influence the availability of resources and thus the opportunities to engage in formal training, participation and employee socialisation progress (p.502), his data does not support this. Osterman (1994), meanwhile, suggests that a small firm that is recognised as operating with fewer resources and hence fewer opportunities to transform, may benefit from the freedom associated with a lack of ‘corporate bureaucracy’. His work shows that smaller enterprises use innovative practices more readily (p.182). The case for ‘size’ and the impact on the engagement of HR policies and practices receives further discussion later in this chapter.

Within the Contingency perspective there exists a number of organisational and market factors that may influence the uptake and success of HR policies and practices. To date the research remains relatively undeveloped with few authors addressing the full gambit of variables. The list that follows summarises the evidence that currently exists:

- strategic alignment has an important role to play within the uptake of particular HR policies and practices, and the success of achieving business performance
- technology influences the nature of the work force and hence the practices engaged in
- trade unions may, or may not, facilitate the introduction and management of practices
- management style and philosophy may influence the success of HR practices in achieving performance improvements
- organisations operating in a market with foreign competitors are more likely to be exposed to innovative practices and, therefore, there is an increased likelihood that HR policies and practices will be engaged in
- the nature of the relationship within the supply chain may influence the adoption of HR practices
- the make up of the external labour market may impact on the uptake of practices, leading perhaps to the substitution or complementarity of HR practices
- the status of the organisation may influence the capacity to adopt practices
- the age of the organisation does not appear to influence whether HR policies and practices are adopted
- there is little conclusive evidence as to the role of the size of the organisation has on the uptake of HR policies and practices.

The Contingency approach lends much to the development of the debate about the role of HR policies and practices and performance improvements. In acknowledging that there are a number of factors that may influence the adoption of HR practices, this approach is critical of the assumptions made in the Universalistic approach. While recognising that the process of adopting HR practices is subject to a number of pressures is helpful, the Contingency approach is not successful in achieving an understanding as to how the adopted practices operate together.

The Contingency approach relies upon consistencies in the adoption of HR practices, including strategic alignments, technology and market environment. Where these

factors change, in response to changes in global or local competition, there is an assumption that the HR practices will also change in line with such developments. This approach offers little scope for HR practices to drive change, making the Contingency perspective somewhat rigid. Therefore, as an example, where the nature of the product dictates the technological status of the equipment and the manufacturing strategy, the adopted HR practices act to follow this approach. Human resource policies and practices remain reactive and potentially out dated. Therefore, in accepting that an organisation operates in a dynamic environment, where consumer choice helps to determine business success, further work is essential to investigate whether strategic HR offers sufficient change, where the level of 'fit' between HR and other variables is restrictive.

The factors that have been investigated under the Contingency approach (such as technology, firm age and size) remain an important element of the debate to be considered. They remain important in establishing whether such factors continue to influence the adoption of HR practices, and in doing so they may reveal some of the challenges that cause the poor diffusion of policies and practices. This enables existing assumptions to be challenged, with opportunities for future HR developments to be made. One approach, that seeks to operate within the dynamics of the current market, is the Configurational approach.

2.7.3 Configurational approach

At a general level the Configurational perspective is concerned with the relationship between 'patterns of multiple independent variables' and a dependent variable (Delery and Doty, 1996; 804), otherwise referred to as combinations, clusters or the internal fit of HR policies and practices. This approach recognises that, although there may be factors that influence the uptake of practices, it is what happens *within* the practices adopted, that provides the uniqueness proposed by authors including MacDuffie (1995), Delery and Doty (1996), and Barney (1995). What emerges out of the discussion around the Configurational approach is that the internal fit of HR

policies and practices operates within a wider environment of fit, akin to the Contingency approach.

Appelbaum et al., (2000) state that the emphasis on clusters of HR practices has existed within the HR literature since the early 1980s when researchers investigated the 'existence of complementarities among workplace practices' (p.33). Similarly Richardson and Thompson (1999) refer to the work of Chadwick and Cappelli (1998) in emphasising the role of 'trading' practices within the context of the HR strategy. This issue of complementarity, therefore, seeks to facilitate the achievement of organisational goals through the alignment of practices with one another.

Delery and Doty (1996) argue that 'Configurational theorists working in SHRM must theoretically derive internally consistent configurations of HR practices, or employment systems, that maximise horizontal fit, and then link these employment systems to alternative strategic configurations to maximise vertical fit' (p.809).

While the achievement of horizontal fit within the organisation requires a level of internal consistency between the HR policies and practices, vertical fit relies upon the HR system being congruent with other firm factors e.g. business strategy. Similarly MacDuffie (1995; p.198) proposes that the relationship between HR practices and strategy is important in discovering the dependency of HR on the level of integration with 'core business functions', such as a flexible manufacturing approach. In Appelbaum and Batt's (1994) work, they suggest that there are two main approaches to the selection of work practices. The selection of practices, it is claimed, is driven firstly by contingencies within the organisation such as the availability of modern technology, the local labour force, the product mix or the value that an organisations customer's place on on-time delivery. It is suggested that such factors influence the particular combination of practices leading to a 'spread of particular combinations or bundles of practices' (p.11). Secondly the selection of policies and practices depends on the process of complementarity or substitution as discussed in the later work by Appelbaum and colleagues (2000).

Accepting that there may be two levels of fit within the organisation thus blending the principles of the Contingency approach and the Configurational approach together, Delery and Doty state that the ideal configuration is the one with the highest level of horizontal fit (p.804). It is the achievement of an internally consistent combination of HR practices that is predicated to improve organisational performance (Arthur, 1992; MacDuffie, 1995; Becker and Gerhart, 1996). Where HR practices fit together and are consistent with elements of the organisation, such as the manufacturing strategy, performance is more likely to be achieved.

The reverse of this situation suggested by Delery and Doty (1996) requires some consideration. Where HR practices are inconsistent with the wider elements within the organisation, such as technology, or where HR practices are contradictory, rather than complementary the consequences can be significant (Pil and MacDuffie, 1996). For example, where employees are introduced to autonomous team working, without training, flexible job descriptions or clearly communicated goals it is likely that team working will have no positive impact on the performance of the organisation, and may disadvantage productivity where employees are unclear about the objectives of the change (Banker et al., 1996; Pil and MacDuffie, 1996). Such conflict between practices may draw the term 'competitive disadvantage' Purcell (1997), where the 'inappropriateness' of a human resource system is reflected in the negative impact on performance (Purcell, 1996).

Equally challenging to the organisation is the degree of fit between HR practices. Becker and Gerhart (1996) suggest that a 'tight' fit between HR practices within an HR system may be detrimental to the organisation. Such a limitation is linked to the potential for the fit to break down, or more importantly that the fit creates an inflexible system that is poor at adapting to change. This is particularly relevant to the concepts of flexibility within the differentiation strategy as outlined by Arthur. As Becker and Gerhart (1996, p.780) suggest 'a high performance HR system ... must be flexible' and remain so. It becomes critical to manage an HR system in response to changing needs to ensure that inappropriate combinations do not inhibit

performance. The fit of HR practices have to be appropriate to the needs of the business and manufacturing strategies.

In a similar vein combining the principles of the Contingency and Configuration approaches, Wright (1998; cited in Wright and Gardner, 2000) suggests that some HR practices may be *universally* applicable e.g. rigorous selection or performance related pay, while it is the efficacy of *fit* in identifying the 'right kind of' HR practice that is more 'intuitively appealing' (p.12). What this seeks to show is that HR practices work most effectively when they are suitable and specific to the organisation, providing support for elements of the Universalistic and Configurational approaches.

The Configurational approach takes the debate of HR and performance into a different area. It highlights that the value of the contribution of HR can be found in the way that practices work in supporting one another, and that the nature of this support is what influences performance. Considering the importance of the interaction of policies and practices MacDuffie suggests 'whether the bundle as a whole should be viewed as equal to or greater than the sum of the parts' (1995; p.204).

Some of the difficulties in establishing whether single HR practices have a significant impact on performance are raised by MacDuffie (1995). In a discussion of previous work, conducted in the area of individual HR practices and performance, MacDuffie states just how misleading research into single practices may be (see also Youndt et al., 1996; Ichniowski et al., 1993), suggesting that 'research that focuses on the impact of individual HR practices on performance may produce misleading results, with a single practice capturing the effect of the entire HR system' (p.200), where one practice or system may affect many others, creating a ripple effect. Similarly, Barney (1995, p.56) suggests that individual practices 'have limited ability to generate competitive advantage' but 'in combination ... they can enable a firm to realise its full competitive advantage', it must be accepted that the sequence of combining practices is also critical. As Delery and Doty (1996) suggest that 'there

may be a best HR system architecture, but whatever the bundles or configurations of policies implemented in a particular firm, the individual practices must be *aligned with one another* and be consistent with the HR architecture if they are ultimately to have an effect on firm performance' (p.786, emphasis added).

What is refuted by this approach to HR adoption is that there is one set of 'complementary' practices that are applicable to all organisations. As Osterman (1994; p.177) suggests 'there is no single major dominant cluster of practices' given that '... we are observing establishments in the processes of change, and that after some time more practices will be adopted and the clusters we expected to find will emerge' (p.186). Nor does the approach suggest that the adoption of a single practice is appropriate, it is the development of an 'HR system', that enhances performance. Given this potential for variation within the approach, the investigation of the theory is particularly challenging.

Appelbaum et al., (2000) draw together many of the various elements discussed under the Configurational approach and develop a model of high performing work systems. This model offers much in an initial attempt to unpick the delicacies of the employee, management and HR relationships and will be used to explore some of the key concepts identified through the authors' research.

2.8 Configuring High Performance Work Systems

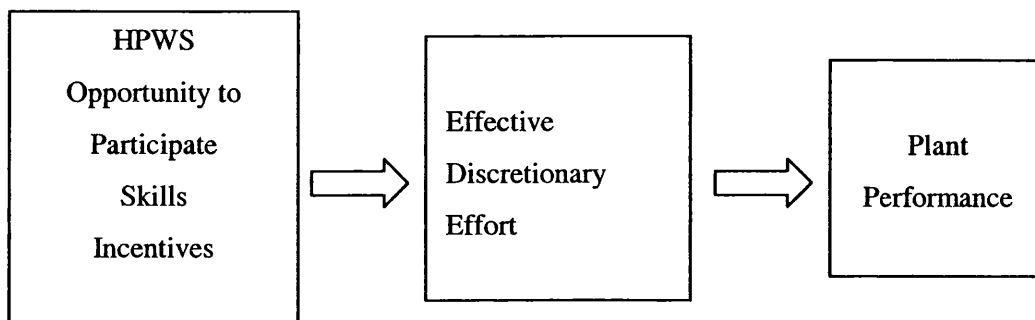
As a reflection of the differing approaches adopted by authors in the areas of HR and performance there remains little in the way of consensus as to the policies and practices that are central to the enhancement of organisational competitiveness (Osterman, 1994; Becker and Gerhart, 1996; see Appendix I). It comes as something of a relief that Appelbaum et al., (2000) have begun to put some structure into this, otherwise, diverse and challenging area of work. While Appelbaum et al.'s model is not without weakness it lends much to the growing interest in the development of HR systems for performance, or high performing work systems (HPWS). In

discussing the significant attention will be given to the component parts, by way of understanding how the philosophies of human resource practices impact on employee behaviours.

Whitfield and Poole (1997), in highlighting the work of Appelbaum and Batt (1994) suggest that a prime division in the modelling of work systems can be seen in the authors 'American Lean Production', and the 'American Team Production'. With the latter focusing on a human resources and team approach to productivity. It is the team production approach that is seen most clearly in the later work of Appelbaum et al., (2000). In general terms the HRM policies and practices, operating within a framework of HR, seek to achieve employee flexibility, enhance commitment, and improve the quality of products and services, and are based in a number of historical work reforms that have occurred over the last century and which have already received some attention in this chapter (Whitfield and Poole, 1997; p.750). The following section seeks to review the various HR policies and practices that have been at the centre of much of the research to date, within the framework proposed by Appelbaum et al. (2000) (Figure 2.1).

Figure 2.1 Components of high-performance work systems (HPWS).

(Adapted from Bailey 1993)



(Appelbaum et al., 2000)

The main premise of the model centres around three components. In this model employees have the opportunity for *substantive participation* within organisations, through *skills* either recruited into the organisation or developed within the organisation. Participation in the organisation through activities such as problem-solving is made attractive to employees through the potential job security that is a consequence of these processes. Job security and a share in the performance benefits of the organisation are recognised as *incentives* by Appelbaum et al., (2000). It is relevant to note that the use of the term 'incentives' suggests external benefit such as financial gain. The use of this term by Appelbaum et al., (2000), is done without consideration to the impact that job security has on internal benefits for individuals. A more appropriate term that can be adopted, in order to recognise such intrinsic issues, is motivation.

2.8.1 Substantive participation

Appelbaum et al., (2000; p. 39) support the work of Ichniowski et al. (1996) and MacDuffie (1995), in describing employee participation as 'the central feature' of a

high performance work system. They suggest that the very act of decentralizing decision making within an organisation, through activities such as problem solving and decision making, is more critical than the actual detail of how this is achieved.

Appelbaum et al., (2000) suggest that employee participation in decision-making has an important role in determining the supporting activities within the organisation. For instance where employees are called upon to influence decisions and solve problems, the organisation requires effective communication processes. Effective communications between these employees and other members of the organisation 'replaces many of the hierarchical interactions' seen in traditionally managed organisations (p.40). Therefore, autonomous and decentralised working requires a removal of status barriers and effective communication systems.

While the concept of participation provides a general overview of the involvement of employees in the processes of the organisation, a distinction is required between on-line, and off-line participation. On-line participation involves task specific change, and includes activities such as team working, it may also require the employer to consider the design of the job to ensure that participating employees benefit the organisation. For instance the development of longer job cycle times enhance the variety of tasks that an employee engages in with the potential to develop skilled activities. Off-line participation focuses on organisational improvements through schemes such as Kaizen, Continuous Improvement meetings or Quality Circles. These processes demand more from the employee by requiring skill enhancement through training and the opportunity to communicate effectively with various groups. Off-line participation also requires investment from the organisation, in committing time and resources that are extra to the usual work process.

2.8.2 Skills

In contrast to a mass production, machine-orientated Tayloristic style of manufacturing practice, the high performance work system approach requires the role of the employee to be valued more highly than the role of the machine (MacDuffie,

1995). This is due to recognition that the employee has a valued contribution to make to the way the business is operated. The contribution that an employee can offer is, in part, determined by the opportunity to contribute but also by a variety of skills and knowledge.

Such skills and knowledge include technical, occupational and interpersonal abilities (Appelbaum et al., 2000). Whether the firm attracts and selects these abilities from outside the organisation, or whether they are developed within the organisation is a choice based on, what Appelbaum et al., term as 'complementary or substitution' activities. This is not a new concept within the field but one that will continue to be repeated in the discussions around the nature of the adoption and diffusion of HR practices (Pil and MacDuffie, 1996; Dunlop and Weil, 1996).

Activities such as selection and training activities are reviewed as substitution, or complementarity, activities by the authors, where the selection of employees with high levels of skills, reduces the requirements for training. It appears simple to regard selection and training as substitution activities, however, with firms that engage in the differentiation of goods, there is a need for continuing product-orientated training. Therefore, although Appelbaum et al., do not make clear the nature of the training it ought to be stated that 'substitution' in a differentiation environment is most likely to apply to the 'initial' training needs of the work force. Selection cannot not act as a substitute for organisational, or product specific training. Likewise, where an organisation is unable to hire staff from within the labour market due to a lack of relevant skills and knowledge, a firm is faced with essential training activities. In this case the choice is removed and selection and training become 'complementary' with the emphasis placed on selecting those able to learn.

The authors do not discuss the need to adopt different selection processes for different groups of staff within the organisation, thus influencing the status of complementarity or substitution. Purcell (1997), comments about the difficulties in identifying the core of the organisation, therefore, it becomes difficult to predict the

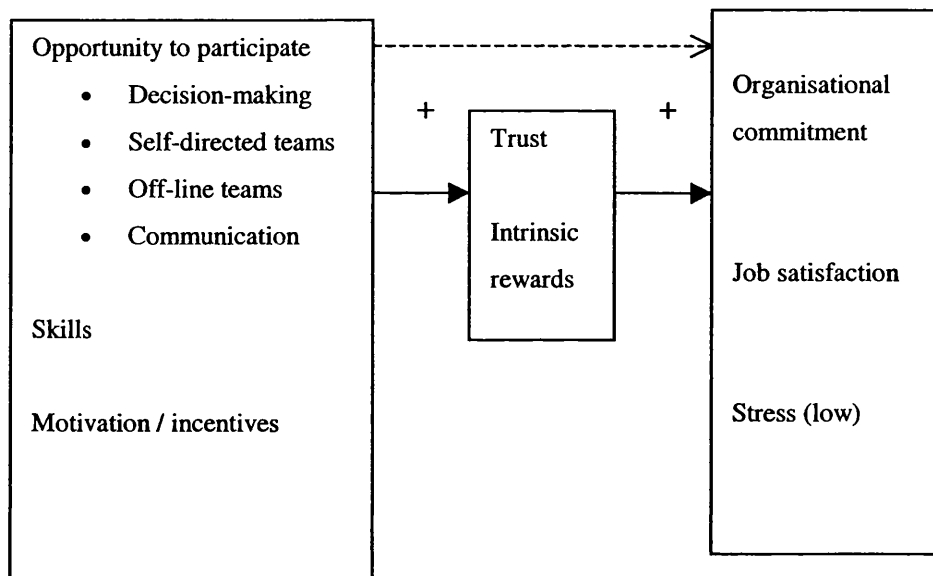
nature of the relationship. It is possible to summarise the dual role of sophisticated recruitment and selection processes, by suggesting that they may aid a firm to employ individuals *with* relevant skills and knowledge, or those individuals with the *ability* to learn new skills. Other activities that can be associated within the skills section of the model include the need for the worker to understand the product and the organisation to aid with managing customers directly. This follows the decentralisation of power within an organisation.

2.8.3 'Appropriate incentives' or motivations

Appelbaum et al., (2000; p.42) raises the question about how to motivate employees 'to use their imagination, creativity, enthusiasm, and intimate knowledge'. The authors are critical of the use of individual financial motivators such as contingent pay, stock ownership plans and merit pay. They state that, as a form of extrinsic motivation, the principles of financial reward can be undermined by the 'free-rider effect' (p.42), whereby the contributions of an individual employee have no visible impact on profit. The role of the 'group', and the impact that peer pressure, or the internal labour market, has on securing motivation for improved output, is recognised as a potential solution within a financial reward system (Appelbaum et al., 2000; Marchington and Parker, 1990; p.71). Team or group incentives may achieve higher output but it is questionable as to whether such rewards act as incentives for employee creativity or imagination.

As a consequence of their research Appelbaum et al., (2000; p.167) develop these concepts and propose a more developed model of HPWS and performance (see Figure 2.2). What is most clear in the new model is that trust and intrinsic rewards mediate the relationship between the HPWS and effective discretionary effort. Also, organisational commitment, job satisfaction and low levels of stress mediate between discretionary effort and 'plant performance'. The following paragraphs seek to unpick the nature of the relationship between HPWS and performance by addressing the concepts added in the model.

Figure 2.2 Relationship between high-performance work systems and the five types of worker outcomes (Appelbaum et al., 2000)



While the role of the extrinsic motivator is brought into question, the impact that intrinsic incentives have on stimulating employees is given more emphasis here by Appelbaum et al., (2000). Challenging and interesting work may lead to employees to be committed and satisfied with their working environment leading to higher productivity. Achieving challenging and interesting work is somewhat more likely in a HPWS, where training, involvement and problem-solving are part and parcel of the work organisation. While employees who are intrinsically motivated are interested in working harder or smarter for the organisation, what remains unclear is the type of incentives or motivations that achieve this extra satisfaction. It seems to be a rather utopian view, to suggest that employees will be satisfied only with interesting and challenging work, although this view is also proposed by Ichniowski et al. (1996). With the absence of clear incentivised outcomes, for the committed employee, this approach lacks a reciprocity expected by employees within

contemporary organisations (Legge, 1995). Such an absence of discussion by Appelbaum et al. (2000), into the role of motivation, may be a reflection of the comments of Richardson and Thompson (1999) who suggest that while motivation is an important factor in the achievement of an organisations HR strategy, it remains an 'ambiguous or mysterious' element of the system.

Seeking to satisfy the incentive element of an employee's needs is the alignment of the employee's interests with those of the organisation. The work of Delery and Doty in 1996, proposes that the practice of creating 'job security' for employees is a key factor in improving the financial performance of an organisation. They develop this argument by suggesting that it is possible that greater job security produces some alignment between the interests of the employee and the employer, thus developing a reciprocal commitment (p. 826). Therefore, capturing employees discretionary effort relies upon developing the interests of the employee with the long-term goals of the organisation. For Hutchison et al. (2001) the discretionary effort exerted by employees relies upon the way in which managers exercise their own discretion, emphasising that it is the ability of the manager to 'stimulate and encourage this kind of behaviour' (p.7)

Appelbaum et al., (2000) rationalise this link, and state that employees are more likely to engage in decision-making and information sharing if they believe that there is a direct benefit to them as individuals. The authors also suggest that financial rewards such as pay for performance, profit sharing (see also Delery and Doty, 1996), or quality incentives 'may be understood as recognition and acknowledgement by the company of the worker's stake in the firm' (p.44). While the financial benefits form an important element of this discussion, it is the consequential concepts of trust and discretionary effort that hold a powerful position in linking employees to the success of the organisation (Appelbaum et al., 2000; p.167). Such discussion leads to the assumption that organisations operating with systems that develop trust and discretionary effort will be more successful than those organisations that do not.

The concept of trust is one that has been discussed by a variety of authors in the HR – performance debate (Banker et al., 1996; Appelbaum et al., 2000; MacDuffie, 1995; Pil and MacDuffie, 1996). Appelbaum et al., (2000) in quoting the work of Rousseau et al., (1998; p.395) suggest that trust is a ‘psychological state comprising the intention to accept vulnerability based upon positive expectations of the intention or behaviour of another’. Such a definition highlights the assumption that employees are willing to make themselves vulnerable at the hands of managers. In the context of the aforementioned study trust is unidirectional with the authors measuring trust in terms of ‘the employee’s perception of managerial behaviours’. This translates into the HPWS when managers are seen to engage in activities that enhance job / employment security by keeping the company in business. The development of trust is influenced by a number of processes including status barriers (MacDuffie, 1995), the role of the supervisor / team leader, as well as the commonly recognised visual barriers such as car parking, uniforms and canteens (Wickens, 1996). Other factors noted to have a role in developing trusting relationships include high basic wages, attractive benefits, training and internal promotion opportunities (Youndt et al., 1996; Delery and Doty, 1996; Appelbaum et al., 2000).

While security of employment may form a clear signal to staff that management can be trusted, there are a number of other activities that are alleged to influence the level of trust within the organisation. Although the Appelbaum et al., (2000) model offers a number of participatory activities that are linked to developing trust, rewards and performance, the evidence suggests that not all activities are relevant. For instance, autonomy in decision-making and communication has clear links to performance. There is less comprehensive evidence in favour of self-directed teams or training activities, and no evidence in terms of employees’ participation in off line teams.

Accepting these difficulties Appelbaum et al., (2000) view trust as a critical element of the success between the HPWS and performance, commenting that ‘The extent to which workers trust their managers is likely to be related to outcomes such as commitment, satisfaction, and stress’ (p.174).

The role of employee commitment to the organisation, within the performance relationship, is an interesting one with Appelbaum et al., (2000) arguing that high levels of commitment may be limiting to the performance benefits in the organisation, where the employee perceives that such commitment constrains their chances to move jobs. This argument proposes the reverse of the job / employment security debate where managerial commitment to security is likely to improve the levels of performance.

Appelbaum et al.'s, (2000) research, and subsequent model, is of significant interest to the HR and performance debate. Their analysis of the contribution of trust, commitment, job satisfaction and intrinsic rewards to organisational performance is valuable in the understanding of how HPWS influence these factors. In concluding the original model Appelbaum et al., (2000; p.102) summarise the list of high performing activities into four areas stating that these are four 'essential dimensions':

- The extent of worker autonomy and control over decisions affecting work tasks
- The extent of communication that front line workers have with other workers and management within their work group and with other managers, workers and experts outside their work group
- Whether employees work in self-directed teams
- Whether they participate in problem-solving or quality improvement teams.

These aspects of the HPWS can operate, according to Appelbaum et al., (2000) in isolation, however, it is the combination of a variety of these factors that is more persuasive in terms of work organisation reforms. The concepts of 'essential elements', and combinations, of HR practices follow an analysis of this model.

Underlying this model are some generic assumptions that require some discussion. Firstly, the opportunity for employees to participate in decisions and activities within the organisation relies upon managerial acceptance of employee involvement. The style of management within an organisation is influenced by a variety of factors including trade unions and historical perspectives (Purcell and Alhstrand, 1994).

Where a strategy, that seeks to improve the quality and flexibility of production, relies upon the development of skills, flexibility and quality of the work force there can be no guarantee that managers operating under this approach will engage in a pluralist approach to employment relations. Where managers are unwilling to share their authority with employees, the commitment to relinquishing status barriers and developing trust (MacDuffie, 1995), may be viewed as undermining managerial prerogative.

A further assumption within the original model questions the role of the employee. The adoption of appropriate incentives assumes that employees have an understanding of the role that participation may have to job security and performance benefits. Where employees are not able to recognise their role in the 'bigger picture', participation in organisational activities may be inhibited. Also as participation may not guarantee security, and trust has to be effectively developed between managers and employees (Pil and MacDuffie, 1996; p.432).

The models, proposed by Appelbaum et al., (2000), are not without their assumptions, however, they go a long way to explain the nature of the linkages between the component parts of a 'high performance work system' and performance through discretionary effort. The models select a number of 'types' of practices each working alongside one another to reinforce the effect. Such an approach to the adoption of HR practices may be recognised as supporting the theoretical perspective referred to as the Configurational Approach.

2.9 Diffusion

In accepting that the nature of the interactions between HR practices is complex, and so too is the interaction of systems of HR with performance it is not surprising that what emerges from the research is a recognition that the *presence* of policies and practices within organisations has been, on the whole, somewhat limited (Thompson, 2000; Dunlop and Weil, 1996; Ichniowski, 1992; Osterman, 1994; Cutcher-Gershenfeld, 1991). Appelbaum et al., (2000; p.51), commenting on an

increase in the adoption of HPWS within steel mills, states that this does not represent a general increase in the adoption of practices, more a reflection of the 'evolutionary process and the piecemeal adoption of practices'. Such piecemeal approaches to the adoption of HR policies and practices have their roots in a variety of issues, which are to be explored in some depth here. Factors such as the role of the employee, organisational culture and organisational history will be considered (Appelbaum et al., 2000; Dunlop and Weil, 1996), under the generic headings of path dependency and casual ambiguity. During this discussion further consideration will be given to the three perspectives where appropriate: Universalistic, Contingency and Configurational.

Much has been written about competitive advantage due to contributions from tangible organisational factors including technology (Zuboff, 1988). However, the literature regarding the uniqueness that people provide to an organisation for competitive advantage has developed greater popularity in more recent years (Appelbaum et al., 2000; Pfeffer, 1995). The following sections address how organisations may develop sustainable competitive advantage.

2.9.1 Path dependency

Path dependency emphasises the role of 'time' within the development of competitive advantage. Becker and Gerhart summarise this approach by stating that HR systems 'consist of policies that are developed over time and cannot be simply purchased in the market by competitors' (1996, p. 782). Such an evolutionary perspective is recognised by Pil and MacDuffie (1996) who suggest that many organisations become involved in a conscious-less trial and error process to adopting practices, while perhaps seeking to engage in revolutionary change.

Where competitive advantage relies upon a system being created over a significant time period, the opportunity for immediate outcomes is reduced. It is this commitment to long-term outcomes that poses a significant challenge to managers. The investment in time and resources requires a belief in the ability of the HR system to deliver the performance objectives. Such is the evolutionary nature of this element of competitive advantage that the direction of cause and effect between people and performance becomes blurred (Baker, 1999 p.8). This is recognised as causal ambiguity.

2.9.2 Causal ambiguity

The principles of causal ambiguity suggest that competitive advantage is 'organisation capability that is spread across many (not just a few) people in the firm' (Becker and Gerhart, 1995; p.780). This emphasises that an organisation's advantage is held within a delicate web of relationships and interactions. People and processes, creating patterns of capability, knowledge and skill, produce these complex relationships and interactions over a period of time. It is the elements of people and interactions that ensure that such an advantage is distinctive and it is difficult to explain, with any clarity, the nature of the effect.

This proposal suggests, therefore, that an organisation's competitive advantage is the result of an unclear relationship, which makes unpicking this relationship complicated. Each organisation has the potential to create unique and distinctive relationships between people and performance, accepting that people and their interactions with others in the organisation are required for the development of knowledge and skills. Competitive advantage is, therefore, achieved through unique work force characteristics that offer indistinguishable linkages and idiosyncratic management techniques, which reflect the nature of the organisation and the work force.

As such this theory directly challenges the Universalistic perspective, by bringing into question the idea that the introduction of a one-solution HR approach will 'cause' performance improvements. Casual ambiguity lends support to the concepts within the Configurational approach, where unique combinations of HR practices reflect the unique nature of the people, capabilities and environment in which the system operates.

Combining path dependency and causal ambiguity, it is possible to see that there is significant emphasis placed on the contribution that employees make to the organisation. Bailey (1992) provides some clarity as to the nature of the contribution to distinctive competitive advantage. He suggests that employees within an organisation, ought to *possess skills and knowledge that managers do not have*. These skills and knowledge will be inimitable within the market (Wright and McMahan, 1992), and employees will exercise specific and in-depth organisational knowledge of 'products, processes and customers' (MacDuffie, 1995; p.198) to ensure that the production line keeps operating, thus assisting employers in efficient production (Marchington and Parker, 1990). These employees will be prepared to execute their skills and knowledge through *discretionary effort*, and the *achievement of the firm's strategy* is reliant on the level of the employees' discretionary effort.

These three factors, describing the contribution that employees can make to competitive advantage, are useful tools through which the concepts of path

dependency and causal ambiguity can be further explored. Also, many of the elements of Bailey's description of inimitability are reflected in Appelbaum et al.'s model, where the opportunity to participate, using skills, leads to the development and harnessing of employees discretionary effort. Some further consideration of this model will be given here.

Reviewing the notion that organisations, to be competitive, require employees who possess skills and knowledge that managers do not have relies upon a number of HR practices within a system. These include the objective management of recruitment and selection processes to encourage a wide number of competencies and to avoid the selection of individuals on the basis of the 'halo' effect. There is a need also for manager's to be confident in his or her own abilities, and to trust their work force in their ability to make valuable contributions to the organisation (Appelbaum et al., 2000; p.167).

Secondly, the proposal that employees are prepared to execute their skills and knowledge through discretionary effort relies upon their belief that they will benefit from engaging in organisational decision-making. Appelbaum et al., report that the benefits of an employee being committed to the organisation are limited as employees may perceive that this commitment constrains the opportunity to move jobs. Guest (1987) describes this as 'multiple and perhaps competing commitment' (p.513). However, without some level of commitment an employee may lack the desire to engage in executing their skills and knowledge for the benefit of the organisation. As Delery and Doty (1996) state, it is the *behaviour* of the employees that determine the successful implementation of the business strategy through HR. Where employees commit to sharing information it is the elements of 'employment security' and appropriate 'reward' that may enhance the level of involvement (Appelbaum et al., 2000; p.166). The nature of the commitment, however, depends on the intrinsic benefits, such as those seen within the psychological contract, as well as the standard extrinsic terms and conditions such as reward systems (Robinson, 1996).

Intrinsic benefits, for employees include, working in a supportive and 'friendly' organisation, operating with a sense of purpose and achievement, being involved and believing that the organisational culture is one that recognises individual's competencies (Riley, 1999). The wider consequences include the potential synchronisation of beliefs and reducing the 'them and us' attitudes between managers and employees. This perspective depends upon the dedication of commitment to the employment relationship by both employees and management (Walton, 1985), which may be achieved through the development of a relationship based around trust (Appelbaum et al., 2000).

Accepting the logic of inimitable or unique competitive advantage, through the concepts of path dependency and causal ambiguity, brings to the fore the challenges of the diffusion of HR practices. Where the effective development of people, time, interactions and relationships are critical to the success of the role of HR systems within organisations, the 'best practice' argument of the Universalistic approach appears all the more simplistic. Were the implementations of HR practices is sufficient to guarantee improved business performance then it is anticipated that many more organisations would be seeking to do just that. However, the previous discussions have revealed that effective management styles and employee participation is what can offer unique advantages.

A greater understanding of how HR systems operate effectively is required in order to encourage managers to make the leap of faith to commit to the, potentially, long and complex process of management of people for performance (Becker and Gerhart, 1996). The following section addresses the current understanding of HR systems and performance.

2.10 HR and medium sized manufacturing firms

The majority of the research that has been referred to, so far, has been carried out in large firms, in the US (Osterman, 1994; Huselid, 1995; MacDuffie, 1995; Delery and Doty, 1996; Ichniowski, 1996). There remains much to be said about the relationship between HR and performance (Patterson et al. 1996; Thompson, 2000; Guest and Hoque, 1996; Wood and Albanese, 1995, Bacon et al., 1996). Within the area of medium sized firms very little work has been conducted. Testament to the existing beliefs found in such studies; that the presence of HR is linked to the size of the company (Thompson, 2000; Goss, 1991; Storey and Westhead, 1997) or being part of a larger organisation (Osterman, 1994), the interest in smaller companies and their HR processes has been limited. Supporting these views is a literature that paints a muddled picture of employee relations within the smaller firm. Such muddled and confusing information has been successful in averting research into the nature of people management within the medium sized firm.

The existing commentary into small and medium sized workplaces and aspects of people management is rather long-standing, with much discussion around 'individual' practices and their impact on the firm, such as training. This discussion, too, is limited in the consideration of people and their potential influence on organisational performance. Gaps exist, therefore, in understanding what is happening in the medium-sized workplace in the UK, in terms of human resource processes, and whether people and performance are linked in any way.

What authors have provided, in terms of the existing literature, are details regarding the research process, the nature of the employment relationship in MEs and other production factors, and the impact that these may have on the adoption of HR. This section will provide a brief review and critique of the work that has been conducted in the medium and small workplace sector, selecting particular issues that will be developed through the research questions in the following chapter. In doing so a

more clear understanding of the conceived wisdom will be developed in order to challenge or reinforce it during the research.

In the 1970s, a flagging interest in small and medium sized enterprises (SMEs), was revived by the work of Ingham (1970) and the Bolton Report. The general proposition, at that time, was that employees working within the ME environment did so out of choice. Citing the Bolton Report it became accepted that 'the small firm provides a better environment for the employee than is possible in most large firms' (p.21). The Report proposed factors such as good communications, direct and flexible management and a high degree of visibility between performance and outcome as characterising the workplace environment. Similarly Ingham (1970) argued that the small firm offered, to the employee, direct communications, group working, rules to suit and varied work roles. For the employer, the consequences of this human resource utopia were low labour turnover and few industrial disputes. In such an environment it may be expected that the adoption of HR policies and practices were readily achieved.

Ingham's conclusions were drawn from investigations into the 'size effect' theory from which he asserted that as the firm gets smaller in size, the levels of employee organisational attachment increases. The development of this assertion concentrates in the area of employee 'orientation to work'. Ingham suggests that employee attachment to the organisation is likely to be significant where levels of orientation are satisfactory. Where attachment depends upon the degree of congruence between orientation and working conditions, Ingham argues that the process is facilitated by an individual's 'non-economistic' preference: where an employee places significant value on non-material rewards e.g. satisfaction. Implicit within the author's stance is the assumption that employees working in small firms 'choose' their jobs based on non-economistic values. Thus facilitating further, the levels of co-operation and harmony within the small organisation. Hence the development of the 'Harmony Thesis'.

Over a decade later the work of Rainnie (1983, 1989) supports the essence of Ingham's statements, where the professional, but personal relationships within a small business are essentially harmonious. Thus proposing that the employee-employer relationship is constructed in a way that is conducive to mutual respect and cooperation. Rainnie (1989) refers to this situation as 'small is beautiful'. While this research suggests an environment that is supportive of the *introduction* HR practices, there is little discussion of the financial / resource issues faced by small firms, nor do the researchers address the concepts of organisational status (Osterman, 1984).

This rather idealised, harmonious image remained strong until the early 1980s when Curran and Stanworth (1981), provided an alternative and somewhat less favourable view of employee relations within the small or medium sized firm. They suggested that the levels of labour turnover and instability, within MEs, were significantly higher than previously thought, thus implying that working conditions were not 'beautiful'.

Such an opposing view of the nature of the employment relationship within MEs does not provide any guidance as to the direction of the HR issues. There is an implication that the *adoption* of HR policies and practices may be limited. Potential factors influencing the adoption of practices include the management approach or style, lack of resources and the nature of the labour market. Curran and Stanworth's (1981) work dispels the myth that the employee-employer relationship is close and harmonious in MEs, however, Goss (1991) attempts to provide a more complex and intricate approach to the employment relationship within small firms.

While a variety of well-founded employment-relationship commentaries exist (e.g. Fox, 1974), Goss provides four 'employer types' that characterise the nature of the employment relationship in the small firm. What these types do is identify the management approach as being a critical factor in the relationship between employees and employers. In doing so Goss (1991), hints at the level at which the employer values the employee. It can be seen that where an employer values the

employee greater levels of investment in terms of HR activities is experienced. The following information is discussed with relevance to the adoption of policies and practices:

2.10.1 Fraternalism

Where employer-employee relationships are fraternalistic in nature, where relationships are brother-like reflecting a peer-like dependency, employers are heavily reliant on their employees in terms of the skill base and the supply of labour. This situation proposes a harmonious atmosphere with an air of egalitarianism, and reflects elements of the proposals by Barney, and those of dependent relationships. The employment relationship appears to be established upon an *equal balance of power* between employee and employer made explicit through *equal pay and duties*.

The dependency of the employer on the employee is compounded further by the size of the firm, where the *loss of one worker* has a significance impact on the levels of productivity. To ensure that a harmonious relationship continues, efforts should be put into achieving *good cooperation, teamwork, commitment and autonomy*. Associated with the search for harmony is the requirement by employees for employers to respect their customs in their occupations. Any failure to meet the required level of respect may lead to low trust and low productivity (Goss, 1991; p.76).

2.10.2 Paternalism

Unlike a fraternalistic organisation there is a clear division between employer and employee, with the former relying less heavily on the latter party. Somewhat contradictory to this employment relationship is the desire by employers to 'cultivate the identification of subordinates with their 'superiors' (Goss, 1991; p.76). The cultivation of this relationship occurs through the establishment of '*mutual*' *bonds of duty and obligation*, which extend outside the work situation.

Goss suggests that the paternalistic relationship is most successful where employees are isolated from experiencing other forms of employment relationships. The firm being small in size, and uninterrupted by other trade union and work groups facilitates such isolation.

Although fraternalism and paternalism are useful constructs in the identification of consent and control style relationships, Goss (ibid.) suggests that these are uncommon within the business strategies of small firms. A more common approach to the small firm employment relationship is that of 'benevolent autocracy'.

2.10.3 Benevolent Autocracy

Summarising this type of relationship Goss states (1991; p.79) 'A more limited dependence upon employees allows employers to stamp the employment relationship with their personal authority...', 'This type of employment relationship thus combines in a vital tension cordial and particularistic employer-employee interactions with the impersonal dictates of market forces...'.

While the initial emphasis places *management in a controlling position* each party has to be able to 'get along' with the other party as the vulnerability of the small firm requires careful management. Explicit conflict is, therefore, avoided via a process of '*neutralisation*' (Goss, 1991; p.79). Expressive conflict is limited and consequently may be driven underground. Employees are faced with inevitable *low wages* dictated by autocratic and dominant managers. However, managerial awareness of the potential damage they may create - including disloyalty and low performance and productivity - means that they will endeavour to 'embody some element of the social in the relationship in addition to the 'purely economic'' (Goss, 1991; p.8). The author goes on to suggest that this invokes a 'power culture' with management in control.

The vulnerability of workers in small firms operating under a 'benevolent autocracy' is compounded further by the lack of experience in the youthfulness of the workers (accepting Curran and Stanworth's earlier work). Goss (1991; p.83) emphasises the lack in 'self-confidence' of these workers and their lack of ability to articulate proficiently thus inhibiting the potential for overt conflict. Goss (ibid.) suggests that such a management *control* strategy makes 'limited accommodative gestures to the interests of employees', emphasising the imbalance of power.

2.10.4 Sweating

Sweating describes the employment situation where employees are *at the mercy* of their employer and their decisions. The complete lack of dependence of the employer on the employee mean that *cost* becomes the principle issue within the organisation, with stability, trust and integration of no concern.

2.11 Influencing factors in the adoption of HR in MEs

Curran and Stanworth (1981b) and Goss (1991) have emphasised the ‘tight’ relationship between workers and production in small firms. They give recognition to the impact that the absence of one employee can have on the levels of production. Such dependent relationships between employee and production inhibit activities such as training, which may have consequences for developing other aspects of HR such as job rotation, employee involvement schemes or appraisals.

A lack of training may lead to an unskilled work force that becomes ‘locked into that particular market’ (Curran and Stanworth 1981b; p.147). However, the consequences of training employees may be equally limiting where trained employees are poached by organisations that are able to provide better packages of reward – usually larger companies.

Goss’ (1991) apparent abandonment of ‘fraternalism’, as a likely employment relationship style brings into question the opportunity to introduce and subsequently manage HR activities within the small or medium firm. Accepting the existing literature on HR and performance (MacDuffie; Youndt et al.; Thompson), it is a fraternalistic approach to management-employee relations that appears to be the most interesting and prevalent. This approach provides an environment that is conducive to employees being perceived as a value-adding resource.

Goss proposes that ‘benevolent autocracy’ is the common approach, where employees are likely to resist the introduction of new management techniques and working practices. Therefore, this research seeks to review whether the management

approach to employment relations reflects a 'benevolent autocratic' approach.

Where this is the case it is anticipated that MEs will not operate with HR policies and practices, or have new management styles and relations.

2.12 Market conditions and HR in MEs

In 1989 Rainnie identified four potential market environments in which MEs may operate. These environments identify external factors influencing the adoption of HR. The work of Rainnie helps to raise the profile of factors such as trade unions, customers demands for quality and HR practices. The description of these roles is aimed at emphasising the potential for dependency, control and vulnerability in the market and the impact on the adoption of HR.

2.12.1 Dependency A company operate to produce goods for a single customer, for instance BMW, Caterpillar or Marks and Spencer's. The supplier is dependent upon this customer for revenue and stability. It may be anticipated that the customer will demand particular quality output levels. As such the ME is heavily influenced by the needs of the customer and may be obligated to introduce certain processes or practices e.g. JIT, TQM, cell-processing.

2.12.2 Dominated

This is where companies dominate their suppliers in terms of cost for competitive advantage. The impact of this may create an environment of poor working conditions and low wages for employees, where the adoption of HR practices will reflect the manufacturing strategy, and employees are perceived as a factor of production.

2.12.3 Isolated

A company may operate in a niche market, where there is an absence of large companies. Competition may be reduced as the customer base is small, making the company isolated. The impact on the adoption of HR practices is similar to the dependent company where the supplier, the ME, is reliant on specific customers.

2.12.4 Innovative

Innovative companies engage in rapid changes to fit into new markets. In doing so they operate with a high degree of flexible, and are willing to embark on high risk projects. Such an approach relies on flexible, adaptable and skilled employees.

2.13 Conclusions

Much of the people management debate has been driven by the changes in the approaches adopted within manufacturing processes. What has emerged, as a common area of interest is how firms, operating a differentiation approach to manufacturing goods and services, adopt commitment orientated HR policies and practices.

As part of this debate there have been a variety of theories and approaches developed by way of predicting the nature of the links between HR and manufacturing strategies, the links within HR systems and the impact that the policies and practices have on performance. From the existing work in the area there remains some fundamental issues that are largely unchallenged. In terms of performance, Wright and Gardner's (2000) discussion raises serious questions about the likelihood of successfully identifying the links between HR and performance due to the interference from the implicit theory and the impact of reverse causation. Such challenges question whether there is a link between HR and performance, and if such a link exists is it genuine or a figment of the furtive imaginations of those completing questionnaires in this area of study. For those convinced that a link exists, Wright and Gardner challenge the direction of the link, and whether it is possible to identify the causation of the HR- performance debate.

What the reverse causation argument is particularly successful in doing is to raise the question about what is happening in organisations when they adopt HR policies and

practices. As little is known about the nature of the contribution of HR – whether it is as a value added factor or as a economic mediator, as described in the reverse causation debate – more work is required in understanding what happens when policies and practices are adopted. Creating an understanding of this set of processes within organisations may also facilitate knowledge about when HR policies and practices are adopted and firms fail to be successful. In this sense the question is about what makes a difference?

Currently much of the understanding of these questions has been addressed through three approaches referred to earlier: Universalistic, Contingency and Configurational. The evidence to support these approaches has found favour with the Universalistic and Contingency perspectives. However, the lack of corroboration for the Configurational approach is due to the complexities of researching multi-faceted relationships, possible only through detailed qualitative processes. Therefore, the debate regarding a dominant approach to the adoption of HR remains open.

Such an absence of evidence as to how and why HR is adopted, places less emphasis on the contribution to performance. Where empirical evidence is able to identify the role of HR policies and practices, the process of adoption and the impact on managers and employees within organisations it is possible to predict that there will be some consequences for the HR-performance debate.

Within the areas of outstanding research it is critical to consider the specific agendas within the engineering sector. Combining the work of Goss, and Rainnie, it is clear that a variety of factors are identified as possible influences on MEs, operating in a number of market environments. It is possible to suggest that the nature of the employment relationship, influenced by the management style, is directly affected by the nature of the market conditions (Marchington and Parker, 1990). The existing research, therefore, proposes that engineering workplaces are largely vulnerable and reactive, predicting that the adoption of HR is due to external forces. Factors that are beyond the level of the establishment such as Governmental interventions, sector representative bodies (e.g. EEF), or external consultants are given little attention in

favour of aspects such as labour market dynamics, customers and supply chain networks (Appelbaum et al., 2000). More recent works have not clarified whether MEs are operating in a reactive manner (Wood and Albanese, 1995; West et al, 1995; Bacon et al, 1996), and there remains a feeling in the literature that, while large companies are engaging in high commitment practices, smaller businesses are practising cost-minimisation strategies (Legge, 1995; Storey, 1995). The theoretical frameworks of Appelbaum et al., (2000), Goss (1991), and Rainnie (1989) provide an interesting blend of issues that require exploration within the manufacturing and engineering sectors, focusing on medium sized workplaces.

The existing theories and approaches to the adoption of HR and the assumed links with performance offer much in the development of a research framework from which specific questions may be addressed. What the following chapter does is to address the empirical evidence that supports some of the existing arguments and presents the emerging research questions for this study.

3 The dynamics of empirical evidence

3.1 Introduction

There is much to be learnt for the various studies that have been reviewed in the previous chapter. In gaining a greater understanding of the approaches that have been adopted in studying work and human resource systems and performance, a review of the strengths and challenges will be given. By analysing the empirical evidence to date, an assessment of the outstanding needs within the field will be established and highlight empirical questions that remain unanswered.

The approaches to researching human resource practices and policies, and their contribution to business performance, are diverse. While some of the studies have adopted a highly qualitative approach, using interview data from which to draw conclusions (Cutcher-Gershenfeld, 1991; Ichniowski, 1992; Banker et al., 1996), others adopt a pseudo multi-method approach using telephone interviews to clarify aspects of the questionnaire data (MacDuffie, 1995; Osterman, 1994). However, persuasive studies have relied upon pure quantitative methods in the form of questionnaires, for their data collection (Arthur, 1992; Youndt et al. 1996; Huselid, 1995). These studies offer large samples of data, with clearly argued results offering, as this does, a level of security to those who are prepared to forgo detail and process in favour of single sentence conclusions. It is only more recently that the work of West et al. (1997), and Appelbaum et al., (2000) has explored a multi-method approach to HR and performance.

Each of the studies mentioned has provided critical new evidence for an argument in support of links between strategies, human resource management practices and policies and business performance. While the finer details of the conclusions vary, it is clear that links do exist. What the exploration of the processes of research aims to

question is to what extent factors influencing the success of HR in eliciting improved performance have been researched. Consequently, there are significant gaps in the literature, preventing a comprehensive understanding of internal and external contextual factors and their role in modifying the relationship (Lowe et al., 1997; Wright and Gardner, 2000; p.10).

The existing research processes have allowed gaps in the understanding of the links between HR and performance to remain. However, many of the authors, aware of the vulnerabilities in their approaches, provide a critique of their research methods and offer guidance for future work. These discussions, combined with an analysis of the methods to be adopted, will be presented. In this discussion, it is argued that a quantitative approach, through the adoption of questionnaires, is undoubtedly strong. However, what is also recognised is that qualitative studies in the area provide more intuitive and thought-provoking work.

It will be argued that a multi-method approach, which successfully combines quantitative and qualitative approaches, has yet to be thoroughly considered in this field. Qualitative approaches have the potential to unlock organisational processes for the understanding of 'strategic contingencies', revealing the differences between policy statements and their implementation, and unpick the nature of causality between HR and performance (Wright and Gardner, 2000; p.24). In doing this qualitative methods aim to provide information where the literature is largely silent, and as such offer much to the understanding of HR (Richardson and Thompson, 1999).

3.2 Quantitative Methodologies

The dominant use of surveys and questionnaires in the study of the link between work, and HR, systems and performance is not without its problems (Arthur, 1992; Osterman, 1994; MacDuffie, 1995; Huselid 1995; Marchington and Grugulis, 2000). Whether designed specifically for the identification of links between HR policies and practices, work systems, strategies and performance (Arthur, 1992; Huselid; 1995), or where existing databases have been drawn on for information (MacDuffie, 1995),

the results, at first glance are attractively persuasive, and rather enticing.

Underlying the neatly packaged presentations, are conclusions weakened, primarily, by their lack of detail and understanding of process (Purcell, 1996). While authors confront the benefits of this approach, the attraction that this form of data provides remains attractive (MacDuffie, 1995).

This section aims to identify the attractiveness of these quantitative studies and the lessons learnt by the researchers. It will go on to challenge some of the inherent problems within the existing work and propose clarification and direction for this research.

3.2.1 Questionnaire development

At the point of developing a questionnaire, many of the authors have drawn on existing theoretical works in order to devise HR and work system constructs (Arthur, 1992; MacDuffie, 1995, Youndt et al., 1996). These constructs have typically fallen into two main categories. These are the contrasting approaches of people management referred to as the 'commitment' approach and the 'control' approach. Using these categories the questions around HR have focused on a variety of levels of operation.

Advocating the use of incident reporting of 'industrial relations', or HR, activities, Arthur's work provides a good example of the use of Likert scales from which the extent of the use of practices may be elicited. The adoption of this approach extends the detail provided by a binary approach (yes / no responses) by offering the respondent and the researcher the opportunity to identify the appropriate level of HR activity. Such cross sectional reporting does not provide data on the adoption of HR practices, but focuses on the incidence of such activities (Ichniowski et al., 1996; p.304; Wright and Gardner, 2000; p.7).

Associated with the issue of measurement, is a concept raised by Osterman (1994), and Becker and Gerhart (1996), regarding levels of analysis. The authors propose that certain HR practices may be utilised at particular levels of the firm, therefore,

analysis of HR techniques should consider at which level the techniques may be used and the likelihood of the interaction with business strategies.

Most commonly authors have relied upon questions focused on HR activities occurring at the shopfloor, workplace and establishment level (MacDuffie, 1995; Osterman, 1994; Youndt et al., 1996). This approach seeks to avoid soliciting information from a corporate level, where the impact of HR practices is divorced from the immediate environment (Wright and Gardner, 2000). Such approaches are used regularly, with evidence from the recent WERS98 survey providing a contemporary example of a grass roots approach to industrial and employment relations recording.

There are two key considerations with this level of analysis. Firstly, 'it often precludes assessing fit with business strategy; rather the focus is on production strategy' (Wright and Gardner, 2000; p.14). The authors suggest that to successfully achieve consideration of the fit with business strategy requires assessment at the business level, involving multi-sites leading to at best 'rough assessments'. Secondly, what these approaches cannot achieve is information at the level of the individual, with managers providing information at the plant-level (Appelbaum et al., 2000; p.15). This lead onto consideration of which managers to approach.

Therefore, a further dimension of levels of analysis is considered when targeting the questionnaire at the most 'relevant' individual. Relying solely on personnel managers, according to Arthur (1992) leaves them to 'judge the importance of effectiveness of their activities in their mills' (p.492). Authors including Baker (1999), Richardson and Thompson (p.26), and Wright and Gardner (2000) also question the reliance on a single respondent and Osterman (1994) suggests that the use of a personnel manager may not be appropriate as 'even at the establishment level, [they] are not in touch with work organisation' (p.174). Many studies (Arthur, 1992; Huselid, 1995; MacDuffie, 1995) have attempted to combat this by corroborating data collected from personnel and other functions. Youndt, Snell, Dean, and Lepak's (1996) study, however, shows that by taking a diverse approach it may, in the longer term, be detrimental to the overall response rates to the questionnaire.

The success and strength of the conclusions from many of the studies is dependent upon the quantity of the data. A more detailed assessment on the administration of questionnaires is provided in the next chapter. However, focussing here on the idiosyncrasies of HR research will provide some guidance on issues for method construction.

Within the research process the various authors conduct follow-up mailings as a way of improving the response rates to their questionnaires. Arthur (1992) followed his initial mail out with second and third mailings, and telephone calls. For MacDuffie, telephone interviews were conducted to complete missing data and a visit to each plant to clarify data. Such approaches are thorough and exact, however, they are costly both in terms of time and money. Arthur's study of fifty-four mini-mills, MacDuffie's of sixty-two automotive, present less of a challenge than some of the larger samples: Youndt et al.'s sampling of 512 manufacturing plants and Huselid's study of 1000 firms.

The resulting responses to these studies vary significantly. For Arthur a sample of 29 useable questionnaires was established (equivalent to a 54% response rate). The Guest and Hoque study (1996) into HR practices in new non-union workplaces, attracted a 35% response rate, with only 12% of the original sample used for analysis and in their 1996 analysis of HR in Greenfield sites, the response to their survey was 15 percent. The response rate to Delery and Doty's questionnaire (1996) was low at 11%, and for Youndt et al. the responses varied at the differing levels of analysis. In Youndt et al.'s study of manufacturing plants the researchers carried out a repeated questionnaire over one and a half years. Assessing information from general and functional managers the response rates were 31% for the first questionnaire sent to general managers, from the sample of 512 manufacturing plants. This response declined to 24% when including the functional managers. This sample population of 122 firms formed the body of the study. During the second round of questionnaires the response rate, from the initial sample of 512 firms, dropped to 19% (n=97). The researchers, having relied upon responses from four functional managers including operations, quality, production control and HR, reduced the level of required

response to only two managers. This data was aggregated to provide the plant level information.

There are significant lessons to be adhered to, from within the existing research conducted using quantitative tools such as the questionnaire. While many researchers have sought to investigate the role of HR using this tool in isolation, there is much scope to combine quantitative practices with qualitative practices within a somewhat pragmatic approach to organisational research. This opportunity will be discussed in more detail later in the chapter.

3.3 Qualitative approaches

This section will review research that has been conducted under the research description of 'case studies', in the area of HR and performance. While authors such as MacDuffie have blended their questionnaire results with interviews for clarification, the case approach discussed here reflects a stronger sense of methodological style. Approaches to a case study differ from one another, however, there are common elements with subsequent learning points.

There are a small number of single site cases within the HR-performance research area. These cases provide dramatic differences in the type of data collated when compared with the questionnaire or quantitative approaches. By assessing a couple of examples of case approaches within the HR-performance field, these differences will be made explicit.

3.3.1 Case methodologies – the single site

Investigating the impact of 'transformations' in work place industrial relations, over a three-year period, Cutcher-Gershenfeld (1991) focuses on a single site in which to conduct his study. The author reviews the role of communication and conflict in improving performance levels and through using interviews and secondary data (trade union records) he establishes that traditional work systems are linked to low economic performance, higher costs, more hours lost to scrap, higher levels of defect

and greater product variance. Such conclusions reflect the growing assertion that control-orientated work and human resource processes result in lower performance levels than commitment systems (Arthur, 1992; 1994).

The work of Cutcher-Gershenfeld (1991) provides a unique and exciting insight into organisational processes. Literature in the field of conflict resolution and co-operation is unsatisfactory according to Cutcher-Gershenfeld, who suggests that such studies have failed to separate the two concepts during investigation. This level of inadequacy may lead to a lack of appreciation of 'patterns' in the conflict / co-operation field. As a method of tackling this issue Cutcher-Gershenfeld adopts an approach that recognises the value of internal fit: 'The variables are not treated separately, since patterns of interaction ... do not occur independently of one another' (p.248). The case approach adopted here, provides the author the opportunity to review and analyse patterns of interactions, an activity not possible within a questionnaire approach.

Interestingly Cutcher-Gershenfeld is less successful in providing quantitative analysis for the links with performance. Although the results of the analysis are in the expected direction they 'rarely achieve statistical significance' (p.255). It would be inappropriate to suggest that these results weaken his work as the deeper understanding of process in the employment relationship, and the internal fit of human resource systems, provide strong theoretical challenges. Such longitudinal studies (this one was conducted over a three-year period) are unique, in that the data provides insights into the dynamics of the processes of changes within organisational settings. In the work of Cutcher-Gershenfeld elements of the HR system and factors influencing them, such as the frequency and duration of grievances could be investigated thoroughly.

A further example of a single site study is given by Banker et al. (1996) who investigate the role of work teams and the impact on performance. In their review of a single work-system practice, teams, the authors fail to consider MacDuffie's assertion that it is the interaction of a number HR practices that affect performance. However, due to the nature of the case approach, a closer analysis identifies other work system and HR practices at work.

Reflecting the conclusions of Ichniowski (1992), Appelbaum et al., (2000) and Banker et al., (1996), indicate that the nature of the employment relationship plays an important role within the success of the introduction of teams. By working within a 'natural setting', Banker et al., were able to realise the following implications for research into HR:

- there is a need for a high degree of trust between the work force and management within an organisation
- existing relationships between employees has a dramatic impact on the success of the introduction of teams.

These conclusions were only possible through a case approach where the researcher and the processes within the organisation came sufficiently close to facilitate a greater understanding of what was happening. It is these somewhat less predictable conclusions that provide a valuable insight into how the introduction of work systems and HR policies and practices may influence performance through competitive advantages.

These two single-site cases address concepts that are outside of the conventions of the Universalistic, Contingency approaches or Configurational approaches. Each of the studies addresses process, by reviewing agendas and relationships and the success of HR policies and practices and performance.

3.3.2 Case methodologies – the multi-site

More challenging for the researcher is the adoption of a multi-case approach to investigating in this area. The choices available in identifying companies are various, and within sector selection is common as a control.

Ichniowski (1992) conducted a case analysis into eleven paper mills, over a six-year period. His study provides evidence that links exist between HR practices and

performance. However, the work of Ichniowski has significant value in identifying considerations for future research, and by default identifies problems within the existing work.

Within his work, Ichniowski places significant emphasis on the role of the case study in providing 'a richer understanding of the empirical link between 'good labor-management relations' and economic performance' (p.240). This, he proposes, is achievable where researchers 'include at least some qualitative evidence on underlying difference in worker behaviour to help explain the performance differences' (p.268).

Thompson's work in the aerospace industry provides a very powerful example of the role of a multi-method approach to the investigation of people management and performance. Using a survey of four hundred companies and an in-depth case approach, adopting seven research sites, Thompson addresses many of the issues that are considered in existing works. Similarly, Appelbaum et al.'s multi-level study spanned three years and combined in-depth interviews with manager and union officials, and telephone surveys of employees. Such an approach offers a wealth of data relying on, in excess of four thousand interviews for data. What weakens this work is the use of a professional survey organisation for the employee element of the research, raising questions around the depth of understanding the researchers had of the area of study.

The majority of the case studies are longitudinal in approach and offer the opportunity to gain insight into the impact that HR has on performance. There are distinct advantages in adopting a case approach, and have been highlighted by a recognition of elements of the nature of the employment relationship and its contributory role in the HR-performance relationship.

What the evidence also proposes is that the combination of research processes (Thompson, 2000; Appelbaum et al., 2000), whilst not yet common, provides a sophisticated set of tools through which the management of people for performance can be reviewed.

3.4 Emerging research questions

There are a variety of issues that have been covered to a greater or lesser extent within the existing research and subsequent literatures.

By focusing on manufacturing and engineering firms there is a clear need to establish whether such a population of firms are participating in the adoption of human resource management policies and practices. The first research question to emerge from within the field is:

Research question 1: To what extent have medium sized engineering workplaces adopted human resource policies and practices?

3.4.1 Measuring performance through competitive advantage

The existing body of research has placed a narrow level of emphasis on performance, without addressing some of the fundamental contributory factors in the adoption, implementation and management of human resource management policies and practices for competitive advantage. Without an understanding of these critical issues the relationship with performance is going to be, at best, somewhat tenuous. Whilst many of the studies reviewed have provided evidence to support links between human resource management and performance, the lack of finer detail, such as how HR practices influence employee behaviours, reveal aspects of the research to be limited. It may be more appropriate, given these weaknesses to challenge and review the question: when do HR policies and practices inhibit competitive advantage?

Notwithstanding these criticisms, reviewing aspects of the processes by which authors have been both successful and unsuccessful in establishing links to performance is essential in assessing the needs for future research.

Becker and Gerhart (1996), MacDuffie (1995) and Ichniowski (1994) advocate the use of measures that are natural and meaningful to the context in which they are measured. MacDuffie states that measuring performance at the level of the

establishment and corporate level financial measures 'can be quite unreliable' (p.198), with Wright and Gardner (2000) commenting on the element of error at this level of analysis due to the variance across sites and between business strategies. Ichniowski advocates the use of performance measures at 'the level of individual work sites or facilities where HR policies are implemented' (p.268). Developing this Becker and Gerhart suggest that share holder returns, profits, organisational survival, productivity, cycle time or customer complaints may all hold equal relevance to any given organisation.

An issue that is given significance by Becker and Gerhart (ibid.) is that not all measures will be relevant to different companies at the same time. Hence, a company engaging in high growth activities may perform poorly on a profit level measurement, while a high producing company, operating a control strategy, may perform well. These statements are made against a backdrop of assumptions that suggest that an HR practice is only *effective* if it impacts on performance. However, as Baird and Meshoulam (1988) suggest HR practices are used, by organisations, at a variety of stages of development including times of growth and decline. Therefore, 'effectiveness' requires careful definition.

It must be considered, therefore, that the adoption of a set of performance measures may seek to identify performance, and in doing so fail to address competitive advantage and effectiveness. In addition, should it be accepted that different companies measure performance and success in different ways to their competitors? It becomes a difficult quest to successfully address the issue of performance, within and between organisations. Ichniowski's experiences of the difficulties in addressing performance may be captured in the following comment:

'Precisely because human aspects in work organisation cannot be mechanically controlled, managers in the papermill ... were not at all confident that the three year duration of the original team concept contract would provide sufficient time to improve the performance of the mill' (1992, p.269).

It is within these complex and critical issues that the concept of performance within medium sized manufacturing firms raises its head. Given that the value of human

resource management is recognised in terms of the impact that policies and practices can have on performance and sustainable competitive advantage (Barney, 1991), it proves difficult in any study to disregard the concept of performance, hence:

Research question 2: What is the contribution that human resource policies and practices make to business performance through competitive advantage in engineering workplaces?

This question will be addressed using performance measures that are specific to the workplace, by way of attempting to capture their competitive advantages. They will include personnel measures such as labour turnover, and operational issues including workers hour lost to scrap, improvements in the quality of work, employee commitment and the organisations perception of their performance in terms of satisfaction (Wright and Gardner, 2000). Performance measures will not focus on economic factors.

3.4.2 Introducing human resource management

What the majority of existing studies fail to do is to comprehensively review any of the contextual factors within and outside the organisation that may influence HR and performance. What this shortage of information does is to potentially affect the level of consideration in the introduction and implementation of new work systems, and the associated HR policies and practices.

Osterman (1994) proposed a number of factors that may contribute to the adoption of HR practices and the impact on performance. These factors are noted in the review of existing research and literature. However, included within the list were: values (in terms of culture) organisational leadership and 'champions'. Such factors have not been thoroughly challenged in existing work, and are of significant interest (Becker and Gerhart, 1996). Investigating theses factors form part of a wider agenda and can be summarised by the following research question:

Research question 3: Under what circumstances are human resource policies and practices most likely to be introduced into engineering workplaces?

There are a variety of authors who theorise about factors that may affect when human resource policies and practices are most likely to be introduced into companies and workplaces.

Factors that are independent include age, size, status and technology. Arthur (1992) and Guest and Hoque (1996) suggest that where a business is less than three years old human resource management policies and practices are more likely to be adopted. This reflects the concept of the Greenfield site, where new organisational cultures facilitate the introduction of innovative practices. Arthur (1992) and Ingham (1970) propose that the larger the organisation the more likely innovative practices will be introduced. For Arthur this reflects the resources available to larger firms. Where workplaces are part of a larger organisation a similar scenario is proposed, where resources are more readily available for HR activities such as training (Osterman, 1994). The work of Osterman, and Appelbaum et al., (2000) also proposes that, where, advanced or modern technology is used in the production methods human resource management policies and practices are more likely to be found. This is linked to the need for high and multi-skilled employees who are developed and rewarded for their contributions.

Factors affecting the adoption of innovative policies and practices that are not independent variables include the role of the customer and HR within the workplace. Beaumont et al. (1996), and Lowe et al. (1997), found that where major customers are concerned with human resources and quality issues the adoption of related HR policies and practices is more prevalent.

Finally, at the level of the workplace, it is suggested that innovative practices are introduced where: there is a human resource / personnel specialist present (WERS 3), an HR strategy exists (Arthur, 1992; 1994), and there is a trade union present (Cutcher-Gershenfeld, 1992; Arthur, 1992; Thompson, 2000). Taking the role of the trade union one stage further Appelbaum et al., (2000; p.8) suggest that the 'uncharted territory' of high performance work systems that provide 'daunting challenges' to management have been, in some cases, initiated by the trade unions.

Accepting the existing work the factors contributing to the adoption of HR, the research may be summarised in the following list:

- the business is less than three years old
- the organisation is large
- the workplace is part of a larger organisation
- advanced technology is used in the production methods
- major customers are concerned with human resources and quality issues
- representation of employees by a trade union
- there is a human resource / personnel specialist
 - an HR strategy exists¹

3.4.3 Introducing HR for performance through competitive advantage

Again by focussing on the link between HR and performance there are clear gaps in the literature. Whilst the evidence supporting links between HR and performance is strong (Arthur, 1992; MacDuffie, 1995; Huselid, 1995; Youndt et al., 1996), understanding how the links are created remains an unknown. Authors have queried the creation of the links, and Ichniowski suggests, 'HR policies like multi-skilling, job security guarantees, and specific compensation strategies can stimulate competitive performance but only in the **appropriate settings**' (p.266; emphasis added). This raises another critical question in order to clarify the HR-performance debate:

Research question 4: Under what circumstances are human resource policies and practices successful in achieving business performance improvements through competitive advantage in engineering workplaces?

Existing factors that have been identified as influencing the success of human resource management policies and practices in achieving performance improvements focus around strategy. Consideration will be given to these factors, with further suggestions made.

¹ this area of research will be managed through the cases, by way of identifying HR processes and conscious decision-making

Fundamental to the human resource management debate is an understanding of control and commitment strategies and the implications for manufacturing systems (Arthur, 1992). These concepts have been explored in previous chapters and present a persuasive argument as to the need to focus on commitment approaches to HR policies and practices. Following this discussion are propositions by a number of authors (Piore and Sabel, 1984; Huselid, 1995; MacDuffie, 1995; Youndt et al., 1996), suggesting that the success of HR policies and practices, in terms of performance, is dependent upon the nature of the business strategy. Where the business strategy gives priority to product or operational differentiation, HR is more likely to impact on performance. This argument is based on an assumption that differentiation strategies rely on flexible work and manufacturing systems that in turn require innovative HR policies and practices such as multi-skilling and training. Such assumptions have been tested. The work of Arthur has been noted as providing a significant contribution to the understanding of the relationship between the business strategy and HR systems. The evidence, in support of a link between an organisations business strategy, HR strategy and HR policies and practices, extends beyond Arthur's research and represent an established body of literature (Porter, 1980; Boxall, 1992; Tichy et al., 1982; Beer et al., 1992).

Remaining with the concept of quality, and associated with the theorising mentioned above, is the work of Piore and Sabel (1984), Huselid (1995) and MacDuffie (1995). They suggest that the contribution of human resource management policies and practices and the link to performance is dependent upon the organisational business strategy emphasising quality improvements. This argument sits closely with the concept of differentiation. Improvements in quality may be best achieved through the adoption of human resource management policies and practices, including employees taking responsibility for quality, improved levels of training and the employment of skilled workers. Osterman (1994) postulates that, where a work force is multi-skilled, the associated HR policies and practices are likely to induce improved performance.

These proposals of those factors that affect business performance through competitive advantage can be summarized in the following list:

- the business strategy gives priority to product / operational differentiation
- business and HR strategy is aligned (to be investigated through the case study sites)
- the business strategy emphasises quality improvements
- the work force is multi-skilled

3.4.4 Combining human resource management policies and practices

The adoption of isolated policies or practices has been reviewed and criticized (Banker et al., 1996; MacDuffie, 1995). The evidence of the adoption of a variety of complementary human resource management policies and practices on performance is strong (Appelbaum et al., 2000; MacDuffie, 1995). Therefore, consideration of whether manufacturing firms are engaging in combinations of practices is essential to develop the understanding of the relationship between practices and performance.

Research question 5: Do human resource policies and practices appear in combinations in medium sized engineering workplaces?

Various authors have proposed normative groups of policies and practices (Purcell, 1997; Pfeffer, 1995). Such grouping reflects an attempt at broad banding the various human resource practices as researched by a number of authors and represented in appendix II.

Pfeffer's list (see appendix III), offers a number of policies and practices that may be useful within organisations to improve performance and Pfeffer suggests that they are critical in this achievement. Whilst this list is useful and potentially 'sexy' (Marchington and Grugulis, 2000), it is prescriptive and naïve, failing to allow flexibility around the policies and practices that may contribute to business improvements. Accepting the discussion in previous chapters, a more fluid list of policies and practices is required to investigate, more fully, the Configuration approach to HR. Purcell's (1997) list of generic HR activities offers some degree of opportunity to challenge which policies and practices influence performance, and how they work together to do this. Therefore, for the purposes of investigating HR practices and whether they operate together, in any manner, the following areas of HR will be adopted:

- careful recruitment and selection (traits and competencies)
- flexible job design and team-working
- significant levels of training and learning
- extensive use of communication systems
- employee involvement in decision making processes with responsibility
- performance appraisal linked to reward systems

3.4.5 Effective people management and the use of HR policies and practices

The intangible aspects of human resource management, and their potential influence on performance, have been referred to by a number of authors including Banker et al. (1996) and Ichniowski (1992). While they have recognised the importance of factors such as trust, conflict resolution, team spirit and loyalty they have not successfully addressed the issues through their research. In Appelbaum et al.'s, (2000) work in the US Steel industry they recognise 'the key role that trust and good work force relations play in high-performance work practices', and comment that without employee involvement and participation based on trust 'the gains expected from high-performance work practices remain unrealised' (p.54).

The literature, therefore, remains all but silent in addressing some of the cultural factors that are alleged to impact on the introduction and management of HR within organisations. This final research question seeks to address the largely undiscovered 'black box' of process that sit between HR policies and practices and competitive advantage. In understanding the processes associated with this area of work it is anticipated that a greater understanding of the issues around the lack of diffusion of policies and practices will be achieved (Ichniowski et al., 1996; Dunlop and Weil, 1996).

This question seeks to address an issue raised by Ichniowski et al. (1996; p307) who suggest that 'it is critical that we study the implementation process to improve our understanding of the correlation between innovative work practices and the many variables the affect organizational performance'. The purpose of this research question is key in developing an understanding about the outcomes of the preceding

research questions: such as question three that seeks to understand factors such as age, technology and strategy but will not address culture, organisational champions and values.

Research question 6: To what extent is the process of introduction and management of human resource policies and practices critical to their effectiveness?

3.5 Methodological considerations

Becker and Gerhart (1996) suggest that existing studies have failed to provide any insight into 'how' HR systems operate and influence organisational performance. The value in understanding the detail of the way in which HR systems are conceived, implemented and managed cannot be underestimated (Richardson and Thompson, p.41).

In an analysis of his own work MacDuffie (1995) is critical of the questionnaire approach to investigating HR. He suggests that a survey is unsuccessful in being able to pick up 'nuances' of innovative HR practices (p. 218). Developing this, MacDuffie states that he has been unable to consider whether the adoption of innovative HR practices form an approach that may be characterised as 'management by stress' and that his evidence fails to provide any understanding into the 'interactions between and among managers and employees' (Cutcher-Gershenfeld, 1991). Similarly Ichniowski (1992; p.269) suggests that 'Very subtle human forces may ultimately prove to be links among HR practices, worker motivation and behaviour, improved relations between labor and management, and economic performance'. He also states: 'Perhaps a subtle feel for how the implementation process shaped critical factors like norms of workplace behaviour are critical to our understanding of how HR policies impact performance' (p.269)

The opportunity to assess 'nuances', 'subtle human forces', and gauge feelings of implementation requires careful consideration. The question may then be raised as to what techniques does a researcher incorporate into a study to ensure that processes, relationships and interactions are captured.

3.6 Cross-sectional and longitudinal data

There is a strong appreciation of the vulnerabilities of cross-sectional studies that capture a moment in time within an organisation. Such a snap shot can be limiting in the nature of the results achieved, failing to provide any causal explanations of processes such as HR and performance (Wright and Gardner, 2000; Arthur, 1992; Sparrow and Marchington, 1998; Youndt et al., 1996; Huselid, 1995; MacDuffie, 1995).

Such an approach, however, is common within organisational research where access, time and financial constraints are restrictive factors. Therefore, the value of a cross-sectional analysis should not be under-rated. Bordering on a quasi-experimental design a questionnaire, if done well, offers the researcher data that is likely to be representative of a large population with the consequential generalizability. The challenge within the HR – performance debate becomes focused on how to develop a robust cross-sectional tool.

Having reviewed the role of the cross-sectional approach to HR research it is clear that such methods leave open opportunities for longitudinal data collection. Youndt et al. (1996; p.860) suggest, ‘Gaining a clearer understanding of the relationship between HR systems, strategy and performance will require longitudinal analysis’. Through case studies, including interviews and observations, aspects of the employment relationship ‘such as trust in management or organisational commitment’ may be established as contributing to the performance debate (Arthur, 1994; p.685). Such an achievement, however, requires a more intimate relationship between the researcher and the members of the organisation.

3.7 Multi-method approaches and data triangulation

There is significant evidence that supports the existing quantitative data within this research setting. Studies such as those of MacDuffie and Arthur have provided a solid foundation onto which recent studies have established new findings. However,

there are a number of researchers who, having challenged the HR-performance debate using questionnaires and surveys, recommend that a selection of finer tools are used to address the nature of the links (Arthur, 1992; Youndt et al., 1996; MacDuffie, 1995; Osterman, 1994).

Considering the discussion between the researchers on recommendations for further research, there is a clear need for a synthesis of research methods in order to develop the existing work. Such an approach to studying organisations has the additional benefit of controlling for inadequacies between research methods. This strategy is known as data triangulation.

Data triangulation is where 'data is collected over different time frames or from different sources' (Easterby-Smith et al, 1996). Given that every research method has weaknesses it is desirable to challenge data from differing approaches to validate the information. Within the case study approach there are a number of opportunities through which triangulation can be conducted. The following issues will be considered in the development of the research project.

Perhaps the most distinct process of triangulation can be achieved through the comparison of data between the qualitative interviews and the questionnaire. This process of 'data triangulation' enables the information regarding the general research population to be reflected on, using the specific information generated in the interviews and presented as case study sites.

This process may be aided by the adoption of more than one workplace for in-depth research through interviews. This offers a level of 'spatial triangulation', through which idiosyncrasies can be identified and challenged. Finally within each workplace interviews can be conducted with a number of individuals operating at different levels within the organisation allowing for 'person triangulation'.

Should each of these levels of triangulation be met, a greater level of confidence will be gained in the data and subsequent conclusions.

3.8 Conclusion

The existing research offers much in proving a link between HR and performance. While attempts have been made to understanding the nature of the link, many studies have relied upon quantitative data that is unsuccessful in identifying process. The following chapter seeks to further explore the nature of the research process, in addressing the research questions outlined in this chapter.

4

Researching in workplaces

4.1 Introduction

The previous chapter addressed, to a certain extent, the role of research methodologies in developing a greater understanding within the human resource management and performance field. Emerging issues within the current body of research highlight that the role of the questionnaire is fundamental in understanding the incidence and impact of human resource management. However, such an approach to the processes involved in the management of people is undoubtedly problematic. This brings into focus the role of the case study and the inherent value that this research has in unpicking complex organisational issues, and providing a more thorough understanding of the processes around the implementation and management of human resource management policies and practices.

This chapter provides a background as to the stages involved in exploring the research questions using a questionnaire, and interviews. It will be argued that the role of the questionnaire is twofold in this work. Not only will the questionnaire operate as a quantitative tool that seeks to provide a broad brush of information on the sample population, it will also form an integral part of the case approach. The questionnaire will be used to identify suitable engineering workplaces for further research. While the role of the questionnaire is central to a generic understanding of the incidence of human resource management policies and practices, this chapter will argue that it is the case study method that, as a phenomenological approach, has significant consequences for this area of research.

This first section in this chapter will challenge the underlying principles of each methodology, through a review of the research paradigms. This aims to address some of the commonly held contradictions of quantitative and qualitative approaches. In recognising the fundamental differences, similarities and comparability will be sought in order to provide a comprehensive approach to researching the management of people.

4.2 Research paradigms and philosophies

Within the research community there are two commonly held research paradigms each offering different ways of viewing the way in which the world operates (Anderson, Hughes and Sharrock, 1986). By asking ‘Are humans *just* objects in the world like chairs and mountains, or do they have a different mode of existence entirely?’ the authors seek to challenge an individual’s way of viewing the world (p.13). In essence the question queries whether humans can be viewed and, therefore, measured in the way that inanimate objects are, or whether they are very different and thus the processes needed to observe and understand humans are different.

The way of interpreting how humans, as a subject matter are investigated, is dependent upon an individual’s *epistemological* approach. An individual’s epistemological approach identifies the way knowledge and its objectivity is characterised. This is underpinned by *ontology*, which is the way in which the world is perceived, and how types of things are classified (ibid.). The following paragraphs explore the two epistemological approaches to researching in organisations, focus is then placed on the impact that this has on the selection of methods, and the weaknesses that require consideration. The characteristics of the opposing paradigms follow a brief outline of each paradigm.

Firstly positivism. This is also referred to as a hypothetico-deductive or reductionist approach, that views the world as an external entity, containing real objects that exist independent of any individual’s thinking. These objects, it is believed, can be

measured using objective procedures, that describe how things are found (Easterby-Smith, Thorpe and Lowe, 1996). Such measures include aspects of experimental designs including questionnaires (Figure 4.1). Within this approach knowledge is significant only when it is measured by observing the external reality (ibid.). It has been suggested that the ability to measure knowledge in this way is 'indubitable' (Anderson, Hughes and Sharrock, 1986; p.85). The positivistic approach is based on a number of assumptions which are described in more detail after a brief review of the alternative paradigm to the positivist approach, the phenomenological approach. The phenomenological paradigm focuses on inductive, holistic, subjective, process-orientated social anthropological approaches to studying society and individuals. Followers of this approach hold the view that reality is 'socially constructed' with an emphasis on understanding and explaining 'why people have different experiences' rather than explanations of people's behaviour (Easterby-Smith, et al., 1996; p.22). Anderson et al. (1986), suggest that 'human subjectivity and intersubjectivity simply are not amenable to experimentation and objective observation' (p.89). They emphasise that, at the extreme of this approach, each and every aspect of life can be interpreted at the level of the individual. More typically, under a phenomenological approach, life and individuals are reviewed with an emphasis on differences, with the identification of uniqueness regarded as a strength rather than a weakness in the data.

There are, by the very nature of the paradigms, fundamental differences in the role of the researcher, the relevance of generalisation and the processes through which 'knowledge' is created. Easterby-Smith et al. (1996), outline the characteristics and assumptions made by those subscribing to a positivist approach. Such characteristics identify implications for the types of research methods adopted under this paradigm. By presenting the phenomenological assumptions alongside those discussed by the authors, this section seeks to define the challenges the researcher has to face when considering a combination of methods.

- Status of the researcher

Within a positivist paradigm the researcher is *independent* of what is being observed (Anderson et al., 1986). This may be achieved through the

adoption of a questionnaire approach, that uses carefully developed unbiased and objective questions to seek an understanding of knowledge.

For a phenomenologist the research process depends upon the skills of the researcher. Such skills include intuition and interpretation, where sensitivity to the nuances of the research subject is critical to understanding what is occurring.

- Drivers of research

Objective criteria are used to determine what to study for a positivist. Facts are sought based on existing understanding, therefore, the development of hypothesis is critical to the research agenda (Anderson et al., 1986). For the phenomenologist research is driven by a variety of factors including beliefs and interests, as well as theoretical propositions.

- Causality

It is claimed that social science research should be able to identify causal links in the patterns of human behaviour. Within a positivist approach, causality is challenged through repeated studies, such as questionnaires. Phenomenological approaches, however, assess causality through the skills and knowledge of an experienced researcher who concentrates on the reported experiences of the subjects to identify relationships over time.

- Hypothetico-deductive

A positivist approach hypothesises fundamental laws. These are then challenged through deductions that lead to un/supporting evidence. The emphasis is on clarifying existing knowledge. Within a phenomenological approach hypotheses may be tested, however, new concepts, propositions or hypothesis can also be created through the research process.

- Operationalisation

For facts to be measured, in a positivist study, concepts need to be operationalised. This may be achieved through an experimental approach,

where the subjects of study are isolated, so that they can be measured. This approach aims to control the independent variables, in order to establish fact. In contrast to this the phenomenological paradigm proposes that facts, experiences and concepts can be investigated, and challenged, within their natural environment, without isolation. This approach regards the context of a subject critical to understanding why it behaves as it does.

- Reductionism

The positivist approach proposes that problems are more clearly understood if they are reduced to simple elements.

Opposing this is the view that concepts of human behaviour and organisational processes are best understood through the mass of complex and intricate detail.

- Generalisation

Generalisation is perceived as an essential component of the positivist approach, therefore, great emphasis is placed on achieving suitably large sample sizes. Generalization may be a beneficial outcome of a process of research, however, the ability to generalise does not add any weight to the worthiness of the results. At the other extreme is that of the dedicated phenomenologist, where generalising to a larger population denies the concept of the individual. Such a view challenges the role of the organisational case approach as a valuable source of information. Balancing the representation that individuals *within* an organisation offer in drawing conclusion, against seeking generalisability to a *wider* population is determined by the epistemological approach of the researcher.

- Cross-sectional analysis

Comparing variations across a large sample enables the positivistic researcher to identify regularities / laws / principles. Assuming that by researching large sample sizes the likelihood of outliers characterising the data is reduced, relies upon effective sampling. It is this 'representative' sample that enables

the positivist to form laws and generalize the wider population. However, what this approach is incapable of achieving is any understanding of process and causality. For the phenomenologist researching at the level of the individual under a longitudinal process may be an unrealisable ideal.

Cross-sectional company data that seeks to achieve views that represent common ideals or processes, does not claim to be representative of the wider population, but is able to address a greater understanding as to how such ideals and processes have *developed* by capturing the experiences of individuals operating within a wider organisation.

It is clear from a presentation of the two extreme views of the research paradigms that the differences in approach at the philosophical and practical level are significant. The recognition of these differences were reported by Reichardt and Cook in 1979, who suggested that each approach had 'acquired a *separate* constituency of advocates who argue that it is their preferred methods which are best suited to evaluation' (p.7) [emphasis added].

This statement brings research 'methodologies' into sharper focus. While at the fundamental level there are research techniques that appear favourable to one paradigm or another (for instance interviewee led in-depth interviews conflict with the positivist approach), the authors propose that a qualitative or a quantitative practice may be superimposed onto the 'other' approach, creating links between the paradigms. Such blurring of the paradigm boundaries is also recognised by Easterby-Smith et al., (1996; p.22) who argue '... there are many researchers, especially in the management field, who adopt a pragmatic view by deliberately combining methods drawn from both traditions'. (See Figure 4.1 for a graphical presentation of this). Such blurring may be achieved within the remit of adopted research practices where the researcher is pragmatic, in his or her beliefs, about knowledge. It has been argued that the pursuit of an appropriate methodology, that is driven by the research question(s), rather than the rigidities of a given paradigm,

reflect a more flexible and realistic approach to research (Tashakkori and Teddlie, 1998).

Therefore, the suggestion that qualitative methods and case studies are fundamentally similar, is criticised by authors including Bryman (1989) and Yin (1984, 1993).

While Bryman suggests that a case study 'sits neatly between action research and qualitative' methods, reflecting the intimacy of the researcher with the organisation it is the work of Yin that reflects the role and nature of the case in this research. Yin proposes that it is the potential of combining quantitative and qualitative techniques that makes the case approach unique. The synthesis of methods, for organisational research, will be discussed here.

4.3 Case study philosophy and methods

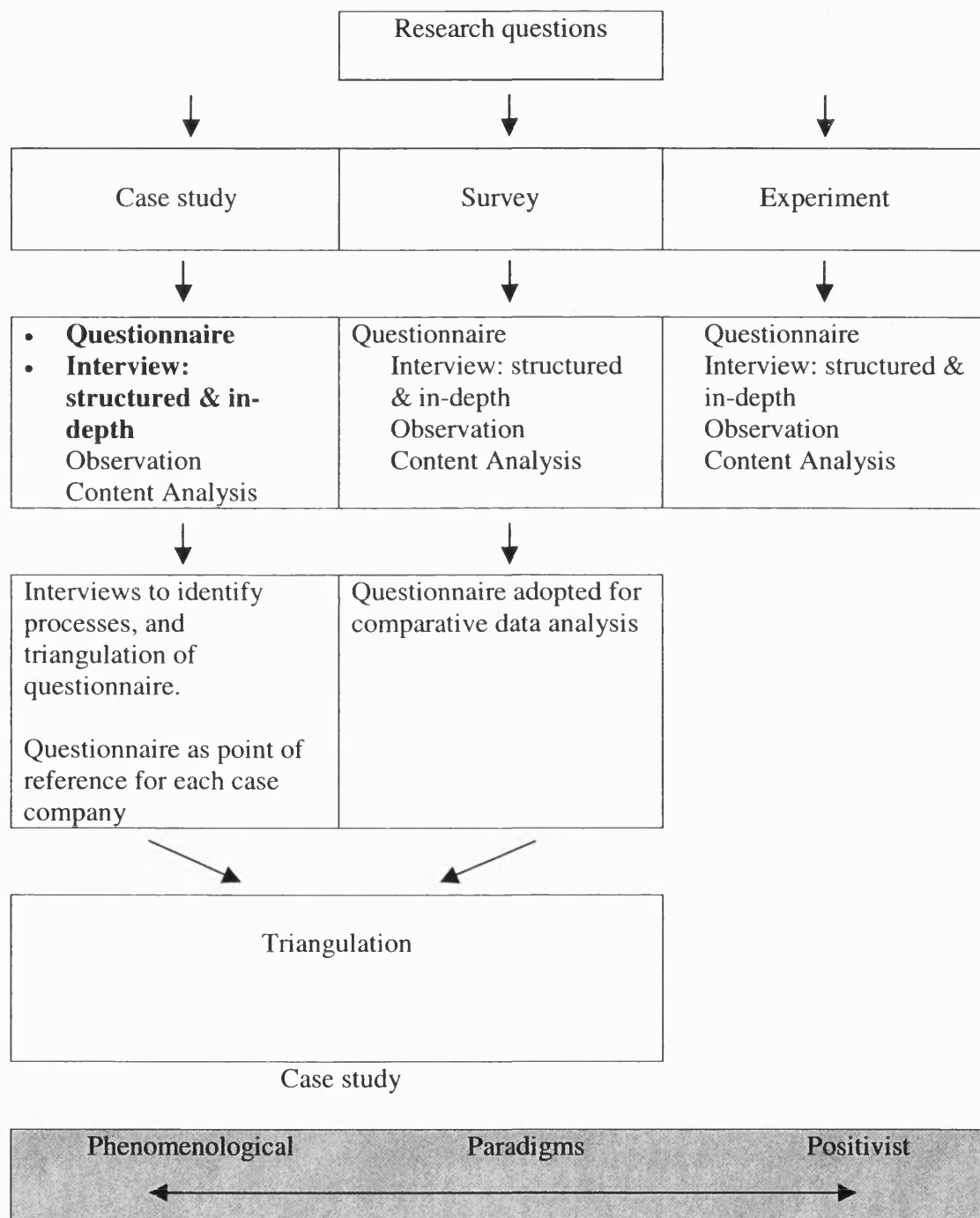
Defining the case study, Robson (1993; p.40) states that it is the 'development of detailed, intensive knowledge about a single 'case', or a small number of related 'cases''. Hartley (1994; p.74) is more prescriptive suggesting that a case is a 'detailed investigation, over a period of time, of one or more organisational groups, of an analysis of *content* and *process* and *context*' (emphasis added). In light of this a case study approach facilitates the study of an object or concept that is not easily distinguishable from its context (Yin, 1984; 1993). By reviewing issues 'in context' further understanding may be gained as to how and why processes occur (ibid.). This is an important factor within the human resource management debate, and forms part of the focus within the research questions (Youndt et al., 1996; p.861).

Considering the demands of the research questions within this project, it is clear that different levels of analysis and understanding are required. For instance, research question one requires factual information on the incidence of HR policies and practices, and research question six focuses on management processes and employee responses and interactions. Referring to the research questions, the nature of the data and analysis required as a starting point for the methodologies required,

successful data collection and evaluation will be most effective where the methods are complimentary to the process.

There follows two figures, each seeking to present the role of differing paradigms within this research. Figure 4.1 is adapted from De Vaus (1993) and highlights the similarities between the various levels of the research paradigms. The figure also clearly identifies that this research sits primarily within a phenomenological paradigm.

Figure 4.1 Research methods and data collection
(adapted from De Vaus (1993, p.6))



Developing the previous Figure (4.1), Figure 4.2 provides a guide to the research techniques adopted for each of the research questions. The questionnaire data will be used to review research questions 1 to 5, and will involve a number of statistical techniques discussed in the following chapter. The interviews are related to every research question to a greater or lesser extent. Here, the case study approach to research in organisations is a closely interwoven mix of questionnaire and interview data.

Figure 4.2 Methods and research questions

Research questions	Methodological approaches
1. To what extent have engineering workplaces adopted human resource policies and practices	Questionnaire used to identify the incidence of uptake of human resource management policies and practices. Frequencies of techniques identify which practices are most dominant.
2. What is the contribution that HR policies and practices make to business performance through competitive advantage in engineering workplaces?	Questionnaire and interview data will focus on operational and personnel performance measures.
3. Under what circumstances are HR policies and practices most likely to be introduced into engineering workplaces?	Questionnaire identifies variables and comparisons between populations will be reviewed. Interviews will challenge this data and review other influences.
4. Under what circumstances are HR policies and practices successful in achieving business performance improvements through competitive advantage in engineering workplaces?	Questionnaire identifies variable and performance measures (qu.2). Workplace populations will be compared and initial conclusions drawn. Interviews will challenge this data and review other influences.
5. Do HR policies and practices appear in combinations in engineering workplaces?	A human resource management index will facilitate cluster analysis. The relationship between policies and practices will be challenged in the cases.
6. To what extent is the process of introduction and management of HR policies and practices critical to their effectiveness?	Interviews and observations within the case approach will challenge the processes involved in the development of human resource management.

4.4 Quantitative contributions in case study approaches: the role of the questionnaire

Although a survey or questionnaire approach has been widely adopted in the search for links between human resource management and performance, it is recognised here as a tool adept to establish 'what' is happening in medium sized engineering workplaces and makes no attempt to identify 'how' things are happening. The role of the questionnaire in this research is to:

- investigate the incidence of human resource management within the sample population.
- attempt to establish links between populations and performance recognised in the research literature, accepting the limits of the performance data sought
- act as a method through which workplaces / cases for further investigation can be selected.
- use to challenge and reinforce the case approach within the four case sites.

The role of the questionnaire is not:

- to establish the cause and effect of human resource management and performance (Wright and Gardner, 2000; Oppenheim, 1996)
- to generate findings that can be generalised to the wider population as it is anticipated that the opportunity to clarify the characteristics of the non-response population will not be possible.

With these factors in mind the design of the questionnaire is now discussed.

4.4.1 Questionnaire design

The following sections describe questionnaire 'best practice', as well as the processes adopted in the development and administration of the questionnaire in this research.

4.4.2 Research population

In recognition of the positivist paradigm, the cross-sectional research technique of the questionnaire was developed with a large population size in mind. Given the lack of empirical work into medium sized manufacturing / engineering workplaces in the UK, significant value lies in creating a database from which a number of factors may be researched. The sponsoring organisation (the Engineering Employers' Federation - EEF), determined the sector in which the research is to be conducted, with some negotiation regarding the size of workplaces selected for sampling following an assessment of the existing research and the subsequent gaps in the literature.

There are varying definitions as to what constitutes a medium sized workplace¹. The CBI guidance on SMEs prescribes workplaces that are small are between 0 and 199 employees, and medium sized workplaces have between 200 and 499 employees. For the purposes of this study, workplaces with between 50 and 500 employees were selected. This removed the micro-sized workplaces of 49 or fewer employees, and any large workplaces of 501 or more employees.

The research sample was drawn from the subscription membership of the Engineering Employers' Federation (EEF) in 1997/8. At this time the population of members of the EEF was 3882. Of this total 3010 had between fifty and five hundred employees. This represents 78% of the total number of EEF subscribers across the UK. A population of this size was too large for a project without adequate resources, therefore, a sub section of this population was sought. Factors that were considered in determining the population for investigation included: existing relationships, and geographical proximity for later visits. These were considered in the light of gaining good responses to achieve good reliability of data.

¹ The CBI adopt the term 'company'.

Accepting the need for the practicalities, as well as the principles, of a questionnaire approach led to the sample population focusing on three Association areas: Western (e.g. Bristol, South Wales and Cornwall), West Midlands (e.g. Birmingham) and South (e.g. London, Kent). In concentrating on these three areas a total of 1020 companies were included in the complete research sample population of UK engineering workplaces. This represents 34% of the total population EEF member companies / workplaces.

Without information as to the characteristics of the remaining EEF membership population it is not possible to state whether this sample of 1020 is representative of the larger population. Therefore, this sample is best described as a 'cluster sample' based on geography (Oppenheim, 1992, p.40). Without a clear understanding as to the representativeness of the sample population it become impossible to gauge to what extent the responses will be representative. However, as it is not the aim of the questionnaire to provide findings that can be generalised this issue was not pursued.

4.4.3 Questionnaire planning

Data collection. Prior to designing the questionnaire, a significant amount of time was spent in understanding the role and impact that the design of a questionnaire can have on data collection (Oppenheim, 1996; de Vaus, 1993; Moser, 1969; Marsh, 1979). As part of this process, consideration was given to factors such as the style, format and media of the questionnaire (ibid.). Allowing for the role of the questionnaire, which included the need for significant amounts of potentially sensitive data, and the need for the respondent to consult with other members of staff as to the replies limited finances and personnel attention focused on the mail questionnaire; as opposed to face-to-face or telephone questionnaire administration (De Vaus, 1993; Moser, 1969; Marsh, 1979).

While there are disadvantages in adopting a mail questionnaire; including low response rates and the lack of opportunity to discuss results (see Oppenheim, 1996;

p.102 for a full discussion), there are significant advantages. These advantages include the low financial costs given the potential returns and diverse geographical access. The mail questionnaire also enables direct access to specific respondents where contact names and posts are known – this information was available in this study.

Respondents. One of the challenges of successfully executing a mail questionnaire is achieving acceptable response rates (Moser, 1969, p.175). Therefore, significant consideration was required to maximise the rate of response to mail questionnaires. The adoption of a covering letter to accompany the questionnaire is the most cost effective and direct means of impacting on the response rates. In accordance with Saunders at al. (1997), and Oppenheim (1992; p.104), the sponsoring organisation introduced the questionnaire to the respondent by outlining the role of the research, and the contribution that their reply could make.

The role of incentives are significant in improving responses (Dommeyer, 1984; Brennan, 1992). While incentives such as monetary rewards were beyond the scope of this work, Dommeyer's research into the role of 'survey results' in improving responses is interesting. In line with the requirements of the EEF, this offer was made in the covering letter (see appendix IV), as was a guarantee of confidentiality on the cover of the questionnaire (see appendix V), (Oppenheim, 1996; p.105).

There are a number of other activities that a researcher can engage in to improve the responses to a questionnaire. In this work the information provided by the EEF was put to best use. Activities such as addressing the envelope to a named individual in the workplace were engaged in (Oppenheim, 1996). Also a pre-paid business-return envelope was supplied to encourage responses (ibid.).

On a more personal level, I attended a number of area meetings both before and after the administration of the questionnaire. This enabled direct access to a number of potential respondents, and key members of the EEF Area organisations. This

process proved very useful providing the opportunity for individuals to discuss the project in more depth and a company's potential involvement.

4.4.4 Questionnaire development

The purpose of the questionnaire, in this research, has been touched upon briefly earlier in this chapter. Given the relative silence in the ME literature as to the extent of the adoption of HR practices, their role and contribution to performance this research offers a rare opportunity to develop a general understanding as to what medium sized workplaces, within the UK, are doing in terms of their HR practices. To develop a general understanding in this area requires a sufficiently large amount of data to enable conclusions, regarding the population, to be drawn. In this way an understanding of how high levels of HR practices can be contextualized within the sample population will be gained, with consequences for the organisational specific research.

To achieve a broad base of information a number of groups of questions were developed. By addressing areas such as; the characteristics of the workplaces, the adoption of HR practices, market share and role of the customer, it was anticipated that a better understanding of the 'context' in which the sample population operates could be developed in order to challenge the existing gaps within the literature.

The questionnaire was designed around eight key areas that are discussed in more detail later in this section. There are a variety of contributing factors in the design of the questionnaire, including the benefits and weaknesses in other questionnaires.

4.4.5 Question modules

Measuring human resource management

There are a significant number of questionnaires in the area of human resource management and performance. Therefore, the initial task in the development of the questionnaire was to review and critique the existing surveys and papers including: WIRS 95, 97; Guest and Hoque, 1995; WIRS in the South West, 1996; Arthur, 1992;

MacDuffie, 1995; Huselid, 1995. The information on specific subject areas was then cross-checked against the work of Delery and Doty (1996) (see appendix I). Modules of questions were then developed and referenced to various empirical studies (Oppenheim, 1996). Additional questions were added in consultation with the sponsors and industrial supervisors. The following list refers to the emphasis of HR policies and practices found in existing research:

- Recruitment and selection (Guest 1997; Huselid, 1995; Wright and McMahan, 1992; Holzer, 1987)
- Training and learning (Youndt et al; 1996; Arthur, 1992; Guest, 1997; Huselid, 1995)
- Communications (Gant, Ichniowski and Shaw; Katz, Kochan and Gobeille, 1983)
- Flexible job design and team-working (Arthur, 1992, 1994; Guest, 1997; Atkinson, 1984)
- Employee involvement in decision-making processes
- Performance appraisal linked to reward systems (Youndt et al., 1996; Huselid, 1995; Arthur, 1992; Borman, 1991)

Measuring performance

Performance was measured at the operational level in order to gather basic data and encourage replies (Youndt et al., 1996). There was much discussion at the pre-pilot stage regarding the inclusion or exclusion of questions pertaining to performance measures such as levels of company profit, sales turnover, net revenue. Given the nature of the role of the questionnaire, the level at which it was being administered and the limits of self-administered questionnaires in identifying performance (Wright and Gardner, 2000; Whitfield and Poole, 1997), it was concluded that questions that were financially or competitively sensitive were not appropriate. In avoiding requesting data that the respondent may believe to be confidential, and may need to seek further information before completing the questionnaire, it was hoped that the response rate of completed questionnaires would be increased.

The decisions about the nature of the performance questions was cross referenced with existing studies and the industrial supervisors to ensure that the measures were

meaningful and relevant to the sector. Consideration of the performance measures follows an analysis of the literature. The performance measures used with in this work included:

- Scrap rates (Arthur, 1992; Cutcher-Gershenfeld, 1991; Youndt et al., 1995) (employee productivity).
- Labour turnover (Wright and Gardner, 2000; Arnold and Feldman, 1982; cited in Arthur, 1992).
- Absence (Ichniowski, 1992; Katz Kochan and Weber, 1985; Dunlop and Weil, 1996; Wright and Gardner, 2000).
- Employee commitment (Walton, 1985; Wood and Albanese, 1995).
- Flexibility of the work force to market changes (MacDuffie, 1995).
- Quality of work (Cutcher-Gershenfeld, 1991; Katz Kochan and Weber, 1985; Dunlop and Weil, 1996; Wright and Gardner, 2000).
- Delivery performance (Youndt et al., 1995; Dunlop and Weil, 1996).
- Percentage quality attainment² (Youndt et al., 1995, p.848; Dunlop and Weil, 1996).

Such measures may be viewed, by HR practioners, as 'intermediate' measures of performance that are recognised as being more meaningful in terms of employees (Richardson and Thompson, 1999; p.38).

4.4.6 Order of questions

The initial page of questions focused on facts about the organisation, such as the number of employees, the age of the site and the nature of the product. These requests encourage a respondent to complete the questionnaire as these questions may be perceived as acceptable, in the sense that they do not refer to sensitive material (Oppenheim, 1996; p.109).

² The data analysis process showed that this question failed to attract many replies and where it did the information was not comparable across cases and was not, therefore, used in any of the analysis.

Questions were then structured around the following topics:

- Section 1 Management of HR and personnel
- Section 2 Selection, training and the organisation of work
- Section 3 Consultation and communication
- Section 4 Representation at work
- Section 5 Remuneration
- Section 6 Customer-supplier relationship
- Section 7 Workplace performance
- Section 8 Change factors

The positioning of the questions relating to human resource management are grouped in a way that reflects, on the whole, an HR process (sections 2, 3, 4 and 5). The questions relating to performance are left until near the end (section 7), and are constrained to six questions, beginning with a subjective lead-in³.

Given that the purpose of the questionnaire is to extract a wide variety of factors, the use of a funnel approach was not necessary and the questionnaire operates with only two filter questions (qu.28 and qu.31). These questions were added to provide further discrimination within the data for later analysis.

The request for personal information, such as name and contact details was left to the end of the questionnaire (Oppenheim, 1996; p.109). Such detail was essential if a respondent wished to receive a copy of a report. At the end of the questionnaire was a further request that was critical to the role of the questionnaire in this work. The statement 'If you have been interested in the content of the questionnaire and would be happy to be further involved in this study please tick the box', was added in order to establish some further interest for the interview process of the case study.

³ question 48: What two features of your products or services are most crucial for competitive success in your market?

4.4.7 Question types

The majority of the questions were closed, with tick boxes used as a way of recording the responses. This approach was adopted to provide a quick and easy way for the respondent to complete the questionnaire. Such an approach also allows for a greater number of questions to be asked (Oppenheim, 1996; p.114).

Specifically, the use of closed questions is appropriate for the reporting of the incidence of human resource management policies and practices.

Open questions are extremely useful in providing freedom to the respondent, however, they may discourage respondents to reply where the questionnaire is perceived as time-consuming. Open questions in this questionnaire were kept to less than 10%, with only three open questions adopted. Two questions with structured multiple replies were also included to encourage the respondent to become more involved in the completion of the questionnaire (qu. 11, 13, 57).

4.4.8 Wording of questions

The target audience within the sample is relatively specialised. The questionnaire audience was to involve managers including those in HR, Manufacturing or Operations depending upon who had responsibility for personnel matters in the workplace. Care was taken to use clear and direct language (see Oppenheim, 1996; p.128). Therefore, words such as *usually* were avoided in favour of 'average' or more specific terms including percentages (see qu. 20 in Appendix V). After the first pilot, the clarity of the wording was facilitated through the provision of a glossary of terms at the end of the questionnaire (Appendix V). This was used to enable the adoption of terms that may appear to the audience to be technical e.g. appraisal, trainability. It was difficult to predict whether the respondent would be a company Managing Director, HR Manager or Shop floor Supervisor, therefore, the action was taken to address the language to the lowest appropriate level.

4.4.9 Data Types

The planning of questionnaire data is critical as it affects the level of analysis and presentation of the results (Saunders et al, 1997). The data from the questionnaire can be divided into a number of types: categorical and quantifiable. Much of the data is 'categorical' where there are no numerical values for the information, but the data can be separated into individual categories. In turn this data can be classified as either descriptive / nominal, or ranked / ordinal (Easterby-Smith, Thorpe and Lowe, 1996).

An example of descriptive data in the questionnaire involves requiring the respondent to indicate the organisation's level of the operating technologies by providing three categories: high, moderate or low. It also requested details on the level of skill of employees: skilled, semi-skilled or unskilled. The subsequent results provide categorical data that is descriptive, as it is not possible to measure the results numerically, but it is possible to place it into categories that are independent of one another. In this sense each case or individual can be placed in only one category, without any overlapping (Saunders et al, 1997; p.289). This type of data is useful, however, there is no sense of ranking within a category therefore respondents are banded.

Ranked or ordinal data is the result of questions 11 and 13, where respondents were requested to give, in order of first, second and third, their workplace's key personnel / HR activities. Such data enables the researcher to 'know the definite position of each case within your data set' (ibid.).

There is less quantifiable data within the results of the questionnaire. Quantifiable data enables the researcher to measure the data numerically. This data is more precise, than either of the two types of data already discussed, as a data value can be placed on a numerical scale. Within this data type, there are two forms: continuous and discrete data. The size of the workplace e.g. 310, 56 or 180 employees represents discrete data, however, it may also be viewed as continuous data where each workplace occupies a position on a continuous data set e.g. 1, 2, 3... 499, 500.

Other examples of discrete data within the questionnaire include the number of hours of training provided for shop floor employees and staff (question 19), and the percentage of employees paid by results (question 35). This allows a high degree of flexibility in the data, allowing for a number of different categories to be used. An example of continuous data can be found in the answers to question 53 where respondents were required to give a response on a five point Likert scale (Easterby-Smith, Thorpe and Lowe, 1996 p. 199).

4.4.10 Piloting

Reynolds et al. (1993) suggest 'Pre-testing (or pilot testing) is the stage in the development of a questionnaire that determines the potential effectiveness of the questionnaire' (p.171). Therefore, significant consultation occurred over the content, layout and question wording, with a variety of stakeholders including industrial sponsors and academics. Outcomes of this process resulted in the production of the glossary and revisions around wording. The questionnaire was adapted four times. At the end of this informal piloting, a near-complete questionnaire was produced.

The formal piloting of the questionnaire occurred outside of the stakeholder group, with managers (directors, personnel, operations) from within the regions to which the questionnaire was to be administered. This offered the chance to gain reactions from potential respondents in the sample group (Oppenheim, 1996; p.55,62). Comments were sought on the questionnaire length, and ease of understanding. The questionnaire was double piloted: initially to ten managers. The received comments were favourable in terms of understanding, and ease of completion. A small percentage of respondents commented on the length of the questionnaire. A review of the questionnaire was completed and it was re-piloted to the original pilot group (n=10).

4.4.11 Administration

Associated with the need of gaining access to workplaces, is the issue of correctly timing the administration of the questionnaire (Saunders et al, 1997, p.270). During May (1997) a meeting was held with the panel of supervisors including representatives from the EEF, and member companies to discuss the administration of the questionnaire. It was concluded that the questionnaire could be administered at a time that avoided the months of June to early September, avoiding the holidays and 'factory shutdowns'. The questionnaire was administered in November 1997. A second round of questionnaires was administered in March/April 1998.

4.5 Questionnaire outcomes

4.5.1 Response rates and non-responses

The initial response rate from the first mail out of the questionnaire to 1020 workplaces, in November 1997, was 183. Of this sample, 176 were suitable for data analysis. This represents a 17% response rate. This rate of response, whilst accepted in other studies (Wood, in his 1995 work, analysed a data set representing a 16% response rate), is not a particularly high rate when compared to the work of Arthur (56%) and Osterman (65.5%).

The second mail out of the questionnaire was conducted in March/April 1998. A further 85 questionnaires were received bringing the total to 268. Of the overall number of completed questionnaires received, 256 were acceptable. This represents 25% response rate. The categorisation of responses by EEF Association area is as follows:

Figure 4.3 Response rates by EEF area

Area	% response rate
Western	21
Midlands	56
South	23

4.5.2 Companies for further study

A significant role of the questionnaire was ensuring that respondents were interested in being further involved, thus allowing for in-depth case analysis to be conducted. Follow up letters were sent to all workplaces that showed an interest in being further involved, acknowledging their interest and stating that, where appropriate, contact would be made with them shortly. Across the complete sample of 256 respondents, 79 workplaces showed an interest in being further involved. This represents 31% of the sample population, as seen in Figure 4.4.

Figure 4.4 Further interest in research by EEF area

Area	Number of workplaces	
	interested	% of responses
Western	17	31
Midlands	46	32
South	16	27
<i>Total</i>	<i>79</i>	<i>31</i>

4.6 Questionnaire data analysis

The analysis of the questionnaire is discussed in the following two chapters, where discussion of the analysis used is closely placed with the relevant data. The types of analysis adopted included simple univariate analysis for the description of the sample population found in the next chapter. Further analysis was conducted using bivariate analysis including chi-squared tests. Finally cluster analysis was adopted for addressing research question five (Appelbaum et al., 2000; p.135).

4.7 Qualitative contributions in case study approaches: the role of the interview

It has already been highlighted that the qualitative research process suffered some crisis of confidence when academic opinion swayed in favour of a more 'rigorous' and 'scientific' approaches to research (Bryman, 1989). The implication here is that the qualitative element of the case approach may not be adequately rigorous. Such accusations stem from the problems associated with the lack of generalisability of results, due the data being specific to the sample, and the lack of opportunity to repeat a study of this nature to confirm the results. Advocates of the qualitative case process argue, however, that 'the aim is not to infer the findings from a sample to a population, but to engender patterns and linkages of theoretical importance' (Bryman, 1989, p.124). The lack of generalisability is counter-balanced by the intuitive insights achieved through the interpretations of the researcher (Yin, 1993, Hartley, 1994). More recently qualitative methods have become a firm feature in many research portfolios, an improvement in reputation responsible to a number of advocates (Yin, 1984, 1993; Bryman, 1989; Morris and Wood, 1991).

Viewed as specially adapted techniques for organisational research, qualitative methods involve the definition of a social group or population and an interest prior to study. The research process requires the researcher to use interpretative and conceptual skills for the analysis of historical developments within the organisation, and for the analysis of social relationships and social constructs, conflicts and paradoxes. These processes lead to a development of themes emerging from the organisation that can challenge theoretical hypotheses, and create new ideas and thoughts for academic debate.

4.7.1 Objectives

The objectives of a qualitative approach in this research include:

- challenging the existing knowledge in research questions 1, 2, 3, 4 and 5, with a view to verifying/denying current knowledge and developing and expanding this understanding
- to gain a greater understanding of the process of introducing and managing human resource management policies and practices within MEs
- to enable new themes and concepts to emerge from the case companies through detailed interviews

Given that there are a number of complex issues that require attention, the qualitative element of the case approach will involve interviews (Easterby-Smith, Thorpe and Lowe, 1996; p.72). For such explorations interviews are a useful and dynamic tool (Oppenheim, 1996; p.65).

4.7.2 Interviews

There are a variety of interview techniques that are available to the researcher (see Saunders et al., 1997; Oppenheim, 1996; Easterby-Smith, Thorpe and Lowe, 1996 for further discussions). The role of the interview, for researching human resource management in medium sized workplaces is two fold. The interview process seeks to extract information in order to explain pre determine factors (research question 3, 4 and 5). It also seeks to explore meaning. Therefore, within the context of each interview a unique combination of exploratory and information-reflecting techniques are needed. It is not appropriate to adopt a standardized interview in this work as 'mass production' of information is not required (Oppenheim, 1996; p.66), therefore, a semi-structured / in-depth interview technique is required.

4.7.3 Exploratory interviews

Burgess suggests that the semi-structured interview is ‘the opportunity for the researcher to probe deeply to uncover new clues, open up new dimensions of a problem and to secure vivid, accurate inclusive accounts that are based on personal experience’ (1982; p.107 cited in Easterby-Smith, Thorpe and Lowe, 1996; p.73).

Such an approach to organisational research provides the researcher with the opportunity to combine clarification on existing themes, with new insights into otherwise unchallenged areas. The semi-structured interview, as part of the case method, is flexible enabling the researcher to introduce new questions prompted by the interactions with the interviewee, and to remove questions to aid the flow of the conversation (Saunders et al.; p.212). Considerations during the decision making regarding the type of interview approach to be adopted invariably involved a number of factors including access to subjects.

4.7.4 Gaining access

Perhaps one of the greatest challenges to social scientists is to gain access through successfully establishing sufficient credibility within their target population. The issues of credibility and access cannot be more obvious in medium sized engineering workplaces where production pressures may reduce the research opportunities.

Access may be facilitated through the use of existing contacts (Saunders et al., 1997; p.99; Appelbaum et al., 2000; p.17). In this research the project was fully supported by the EEF and, therefore, established relationships within the sample population existed. These relationships and the questionnaire offered good opportunities to identify workplaces and their staff for interview. The development of the relationship between the researcher and the potential research site is critical to gaining further access, and establishing trust and openness (Easterby-Smith et al., 1996). In effect the initial relationship determines whether the ‘gatekeeper’ will facilitate further interviews. In order to further develop credibility of the researcher a number of processes were engaged in.

- Directors in EEF Western and EEF South Associations were approached, who identified interesting sites in which to make initial visits. The Directors, in the three Associations, were particularly supportive during the administration of the questionnaire and offered further assistance with workplace identification.
- I was invited to attend Area Meetings within EEF Western. This provided the opportunity to create contacts with HR / Personnel Directors and Managing Directors of local MEs, and to answer any questions regarding the project.
- I was also invited to an EEF Training Course, at the Western Association, that provided further access to Directors.

4.7.5 Interview preparation

The quality and the reliability of the interview data relies upon the relationship developed between the interviewer and the interviewee. This in turn is dependent upon the degree of confidentiality and anonymity guaranteed to the interviewee (Healey and Rawlinson, 1994, in Saunders et al). Therefore, prior to the interview process the interviewer will state that confidentiality is guaranteed, that no person's name will be referred to in any report. The interviewer will also guarantee that only the researcher has access to the information shared during the interview, and that no other staff member or member of any other organisation will have access to the interview notes.

The length of the interview was dependent on the individual interviewee and the circumstances within the organisation. For the purposes of this work, the interview process was planned to last between thirty and sixty minutes for shop floor employees and sixty minutes for members of the management team. This allowed for work pressures (Goss, 1991).

Accepting that access to interview subjects and the length of the interview may be subject to organisational variations the interview scripts were fluid. A number of interview questions were planned using the key HR themes with the questionnaire. However, these questions were kept open to enable flexibility during the interview period. A sample of an interview script can be found in appendix VI.

Following guidance from existing research evidence energetic attempts were made to ensure that interviews were conducted with those members of staff who were as close to the operation of human resource management policies and practices as possible (Youndt et al., 1996; Appelbaum et al., 2000).

4.7.6 Selecting interview sites

Attention was also given to the selection of the organisations within the case approach as part of the questionnaire analysis chapters. A brief review of the process that led to the selection of the case organisations is provided here, in order to further understand the complete research approach.

There are 79 workplaces, within the sample population of 256, that were interested in being further involved in the research. Each of these workplaces were considered in terms of their HR and performance indices (discussed in detail in the following chapter). Using the HR index, which provides a summary of the number of HR practices that an organisation is adopting, the 79 cases were ranked. This ranking provided some further guidance as to the extent of HR adoption within each workplace and indicating their suitability for further research based on a 'high' incidence of HR (again this is further discussed in the analysis of the questionnaire).

The practicalities of workplace location were considered, where a number of visits were anticipated as part of the relationship building process. Initially five workplaces were approached regarding further involvement, with a view to gaining four 'high' HR workplaces. By selecting five workplaces it was possible to organise the first visits fairly promptly, and make decisions regarding their suitability. Four cases were then carefully selected for detailed case investigations in order to provide

data triangulation, and to compare the impact of varying workplace characteristics including management style, labour market, size and technology.

4.7.7 Interview process

Stage one

The initial interview was conducted with the person who completed the questionnaire. The purpose of this interview was twofold. Firstly, the researcher was seeking to gain credibility with the respondent. Establishing rapport with the interviewee may facilitate the development of an open and trusting relationship. This is important in ensuring that the information that the interviewee provides is accurate and does not reflect what that person believes the interviewer is seeking Easterby-Smith et al. (1996). Also establishing a good rapport with the gatekeeper is critical in gaining further access.

Secondly, the information gathered from this process acts to reinforce or to contradict details given in the questionnaire regarding the use of human resource policies and practices. By discussing the completed questionnaire with the respondent there was the opportunity to probe, as to the interpretation of the questions and, therefore, the accuracy of the reported level of human resource management activity. This process, in turn, was supported by a 'walk-about' on the shop floor with another member of staff to whom further questions could be discussed. This formed a critical part of the process as it enabled the researcher to establish whether or not the workplace was engaging in human resource practices.

Following the initial interview, it took some time to gauge the contribution that the particular workplace may make to the research. This decision was based on the questionnaire information, the initial interview, and some observations where appropriate. When it looked as though the company was an exciting research site further access was negotiated. Having established that a workplace was operating with human resource management policies and practices, and having secured the consent of the respondent for a second visit, the next stage in the interviewing process began.

Stage two

The principles of the second stage are to gain access to a small percentage of the senior management team, and then next layer of managers including team leaders / supervisors / line managers. Interviews with the senior team were viewed as a way of establishing the extent of HR strategy, HR planning and the level of expect human resource management activity. The subsequent interviews with shop floor employees enabled some of the management assumptions to be challenged or reinforced (Stanworth and Curran, 1981; Youndt et al.,1996).

The purpose of interviewing members of the senior management team is to verify the data given in the questionnaire and to begin to challenge the concepts associated with research question 6⁴. Interviewing at the senior level also facilitates further access where a sympathetic relationship is established. As managers at this level in the organisation are likely to have been directly involved in the introduction and management of HR processes, as a group, they provide a unique source of information. This includes the identification of the implementation of HR strategy and any employee / management resistance to changes.

The target group includes operational, quality, and customer service managers. Given the nature of the sector it is not possible to predict the management make-up of the organisations selected for further research, therefore, the researcher will be guided in part by the initial respondent.

Stage three

Employees (non-management individuals working at the shopfloor level) provide another final unique source of information within the case approach. This group of staff experience the intentions and actions of management, and are engaged in the day-to-day activities associated with human resource management. They provide

⁴ the introduction and management of human resource management and the impact on their success

experiential information on the processes of the introduction and management of human resource management policies and practices, critical to research question six.

4.7.8 Number of interviewees

The number of interviews conducted within a case approach will vary depending on the level of access gained. Therefore, establishing open and trusting relationships continues to play a key role in the process. Allowing for some level of flexibility, it is possible to predict that a hierarchy of numbers of interviews, reflecting in essence the structure of most workplaces, would be appropriate. Therefore, the number of employee/staff interviews will exceed the number of team leader and management interviews.

Ideally ten percent of the organisation should be interviewed in order to provide a cross section of experiences. However, the implications in terms of time are significant. For the purposes of this research a total of forty interviews were sought. The following Figure (4.5) shows the interview processes for each workplace, including the point of entry.

Figure 4.5 Number of interviews per case site

	Huck	LAP	SHL	DAP
Senior management operating at Board level e.g. MD, HR,	1	1*	3*	1*
Senior management e.g. Quality, Kaisen	2	1	1	1
Team leader, line manager, supervisor	3*	4	1	1
Shop floor employee	7	5	5	4
Total	13	11	10	7
Trade union reps (included in total)	N/a	2	1	1

* denotes the initial gatekeeper interview

4.7.9 Data recording

The process of recording all of the information gathered during the interview process is a challenge for the researcher. The ability to create a full record of the interview is identified as one means of controlling the interview bias and improving reliability (Saunders et al., 1997; p.227). Two recognised methods of recording interviews are discussed here:

- Taping an interview and then transcribing the results, is a thorough but potentially intrusive and time-consuming process (see Saunders et al. for a reasonable discussion; 1996; p.228). Taping recording is not always practical (Holliday, 1994; Ram, 1993) due to the busy, noisy and unpredictable environment in which the researcher has to operate. This is particularly pertinent within an engineering environment.
- Note taking is a process that requires a certain degree of skill and confidence in the researcher. The skill involved includes the ability of the researcher to make the process unobtrusive. This includes activities such as ensuring that the interviewee does not feel isolated during the interview when the researcher is not looking at them, and being able to be able to record what is said by the interviewee rather than what the researcher wishes to hear. Confidence is required to be able to record objectively, with an ability to interpret diagrams or annotations shortly after the interview.

In this research the interviews were recorded using note taking. This process was also used to code data during and after the interviews, using annotations to the scripts.

4.7.10 Data coding and analysis

The interview process in this research is mainly semi-structured. This process typically attracts a grounded theory approach to analysis (Easterby-Smith et al., 1996; p.105). This approach is of particular use as information, new themes and

concepts are sought, which can be drawn out, and recognised using this method. Whilst themes and concepts had been considered and adopted in the preparation of the interview guidance scripts, the interviewees were encouraged to take the lead, therefore, eliciting new themes and concepts. The following process is adopted in the preparation and execution of the analysis of the data:

Preparation. Following the interviews, time was taken to prepare the data. This involved reading each of the interview scripts and noting key themes, both themes important to the research questions and those important to the interviewee. This process of familiarisation and reflection was aided by providing a number of codes on each theme to every interview script and individual statements or comments within each script. This conceptualisation of themes and cataloguing of concepts was the first stage in producing a comprehensive framework of ideas.

Reflection. Easterby-Smith et al. (1996) recommend that the reflection process enables the researcher to evaluate and critique the information they have. This is done through challenging the data using questions. This approach was adopted using the research questions, and later questions that addressed the 'story' that the data provided.

Having established the themes and concepts from the data, a master document for each case was developed. This document is used to select quotes from each interview script related to each of the concepts. This process is facilitated through the, previously mentioned, coding for each script. The outcome of this process is a document that begins to build a story of the views and experiences of members of staff at all levels in each of the cases, following existing key themes and new themes. This process enables the researcher to check to see whether particular comments or experiences are common across the case or specific to one individual, therefore, developing a higher degree of reliability and validity within the data. This process of coding and cross-referencing was revisited a number of times, reflecting back into the data to encourage further theme development.

Following the process of coding and theme recognition, links were made to the empirical and theoretical literatures (Easterby-Smith et al., p.111). This enables the researcher to re-evaluate the data and establish whether or not the analysis appears to show some bias or not. Where this process of re-evaluation has been conducted before the completion of the individual case interviews adaptations are made.

4.8 Observations

Observations made during the research were recorded as part of the research diary and as an aid de memoir, as to experiences and idiosyncrasies of each workplace⁵.

4.9 Company Reports

Where possible company documents were sought⁶. This data collection aimed to include annual reports for general information, strategic documents including vision statements, and documents to support the claims of human resource management e.g. appraisal forms, attitude survey results, training plans.

4.10 Conclusions

By combining quantitative and qualitative techniques within a qualitatively driven case approach offers much in the way of challenging the HR performance debate, and seeking a better understanding of the impact of adopting, principally, different techniques to researching within organisations. In planning and developing the methodological approach to this research it is anticipated that the case studies will

⁵ Specifically access was available to a Huck (UK) Senior Management meeting, and time was spent on the shop floor in team leaders offices while day-to-day activities occurred.

⁶ Company reports, vision statements and appraisal scripts were available from DAP. Appraisal scripts were also received from LAP Electrical. Huck (UK) provided an employee attitude survey, company newsletters, an annual report, reports relating to the company finances, Kaisen workshops, quality measures, and there was access to quality documents, videos, Personal Development Review scripts. In SHL the company newsletter was made available.

enable the collection of unique data with the enhanced opportunity to reveal new and exciting concepts and themes in the understanding of the contribution of HR policies and practices, and lessons for further work.

5

A profile of medium sized engineering workplaces

5.1 Introduction

This chapter presents an overview of the data, gathered through the questionnaire, and provides an outline of its characteristics. Comparisons of the general characteristics of this data set are made against the WERS 98 data where appropriate. This is done in order to establish the calibre of the data, to compare the data sets for similarities and differences, and to provide any conclusions from this work. In doing so a clearer picture of the composition of the sample will be created, and suggestions will be made about how this affects subsequent conclusions.

The data set in this research comprises of two hundred and fifty-six engineering workplaces. Whilst the term 'engineering' is adopted in this work it must be recognised that the make up of the questionnaire sample includes workplaces that vary significantly in their products and include – as a sample - electronic drivers for lifts, laboratory equipment, chemical detection equipment, plastic mouldings for the automotive industry, and diamond tooling. The term 'workplace' has been used through out this work to reflect the nature of the activities of the sample population at the centre of this research. Cully et al. (1998) refer to workplaces as 'the activities of a single employer at a single set of premises' (p.3). As such a single business unit, which belongs to a larger organisation, operates as a workplace although there may be more than one workplace linked to the same Corporate / Head Office. A workplace is, therefore, a 'sub-set' of an organisation (ibid.). What this chapter does is explore the adoption of this term through an analysis and greater understanding of the make up of the questionnaire population.

The number of workplaces used in this analysis represents a response rate of 25 percent. This is acceptable in terms of existing research, it is also necessary to note that this sample is not intended to represent all medium-sized engineering workplaces operating in the UK. The sample is, however, of significant size to provide useful insights into the activities of engineering workplaces within the membership of the Engineering Employers' Federation. The data is also suitably varied in terms of HRM to provide comparative analysis, and identify suitable and interesting case studies.

5.2 Data preparation: recording and coding

The planned recording of data from the questionnaire ensures that the subsequent analysis and conclusions are both achievable and valuable. This section explains the processes of recording and coding data, highlighting the benefits and disadvantages of such actions where relevant.

Where quantifiable data was requested of, and provided by, the respondent the data was recorded as it appeared on the questionnaire. This included data such as the overall number of employees in the workplace, the numbers of managers, employees, temporary and agency staff and the percentages of skill levels including technical and clerical staff. This information, where necessary, was recoded into broad banded categories to facilitate a description of the information as can be seen in the following sections.

Where categorical data was sought codes were set up before the questionnaire was administered, and the process was facilitated through the production of a code-book stored within Excel (Oppenheim, 1996, p.262). Coding of categorical data such as high, medium or low technology, involved providing each reply with numerical codes, such as 1, 2, 3. This aided the speed of recording the data.

Many of the questions within the questionnaire requested a yes / no reply indicating the incidence of an HR practice. Where a yes reply was given this was recorded as a score of 1 (one), enabling rapid data entry, checks and initial summaries of information. This process reflects existing incident reporting of policies and

practices (Arthur, 1992; Youndt et al., 1996). For the purposes of statistical analysis, the higher the score for a case, the higher the number of HR practices were being reported.

Coding of the ranked data involved labelling open responses that had been provided by the respondents in questions 11 and 13. Prior to adding the data into a database, a random selection of questionnaires were extracted (n=30) and reviewed for answers. This enabled the researcher allocate answers with a code, including the amalgamation of similar replies. For example where different respondents had answered 'IR' (industrial relations) and 'employee relations' these answers were coded as the same reply. While the reduction in the detail of data means that there is a loss of information during this process, it facilitates a more rapid data entry and ease of data handling (Oppenheim, 1996).

For the majority of responses to the open questions, the amalgamation of replies into categories was not necessary and each reply was given a unique numerical code e.g. 1 = recruitment, 2 = training. A sum total of eight codes were given for questions 11 and 13 and they can be reviewed in the codebook. These categories are discrete and non-overlapping (Oppenheim, 1996; p.271). The inter-coder reliability was unproblematic as a lone coder completed the process (ibid.).

Whilst questions 45 and 57 in the questionnaire are also open questions, following an initial screening of a sample (n=45) it was clear that the majority of the sample had failed to complete these questions. This low response enabled direct recording of the responses to be conducted in the first instance. Whilst such a low response significantly reduces the value of the quantity of data, it enabled the researcher to avoid losing detail and, therefore, establish a more accurate picture of the activities within the responding workplaces.

The data was cleaned, a process that included identifying inconsistencies in filter-question answers, checking for typing errors and deleting cases where limited data had been provided. This is of particular importance for the later development of data indices. Whilst such internal consistency checks may not guarantee a clean data set, it is an essential process (Oppenheim, 1996; p.279).

A data set from the questionnaire was created in SPSS (version 7.5) and copied to MS Excel. Each individual workplace was given a case number, recorded on the completed questionnaire and in the database (Oppenheim, 1996; p. 266). This ensured easy access to individual workplaces with the opportunity to cross check data post entry, and to anonymise each site.

5.3 Response bias

Ichniowski et al. (1996) warn of the danger of self-selected sampling where respondents to mail questionnaire may inflate the results of the link between human resource management and performance. This is a common trait within the HR performance questionnaire field, and it is an important factor within this study, as it may be expected that those workplaces that are operating production systems that are associated with very few innovative human resource practices may avoid replying to the questionnaire. At worst this may lead to a response bias in favour of links between HR and performance, however, in this research it is not anticipated that the results are generalisable to the wider population therefore the relevance of a 'representative' sample is reduced. Should generalisability be sought, from this research, the results would sit well with the existing research, as inflated results are characteristic in the field.

The issue of generalisability is also considered through the measure of non-response. Questionnaire results can be given greater credence where a thorough understanding of the total population provides information as to the characteristics of the non-response population. As Oppenheim states (1996; p.106) it is 'not the number or proportion of non-respondent but the possibility of bias' that is the concern within postal questionnaires. Gaining this information relies upon an understanding of the characteristics of the non-responding population. In this research the characteristics, and incidence of HR, within the non-response sample were not available. This was due in part to the lack of membership information from the sponsoring organisation. As the population, to which the questionnaire was addressed, was specific to an organisational membership the characteristics were not reflective of the geranial manufacturing population. Oppenheim adds that the process of identifying the impact of the non-respondents is difficult and that the recognition of deflated, or

inflated results is sufficient in managing non-response (p.107). The lack of a measure of non-response, within this research, can be contextualized within the case approach.

5.4 Missing data

The coding of missing data is important (Oppenheim, 1996). Saunders et al., (1997; p.294) report that an absent response may indicate a number of factors. These factors include

- no data required due to a filter question (question 28 and question 31).
- the question was not answered by the respondent, which is known as a non-response
- the respondent did not have the relevant information to answer the question
- the absence of an answer may indicate an answer e.g. question 22. (ibid.)

In dealing with non-responses within this data set, the initial cleaning of the data involved some 'listwise deletion', where whole cases were deleted due to low responses across the entire questionnaire (Oppenheim, 1996; p.280). The outcome of this process left a sample of 256 cases; a favourable number particularly when compared with the work of West et al (1995) where 117 firms were reviewed. During different stages in the analysis e.g. correlations, cases were deleted due to the absence of data. Known as 'pairwise deletion', a case is removed when appropriate and then 'resurrected' for the remainder of the analysis (ibid.). Where this has happened the number of cases used is referenced.

Non-responses in this data set were initially recorded with a non-numerical entry, with a full stop used. This enabled a quick visual review of the data to identify any further cases required for deletion. Where necessary, and driven by the data base packages SPSS and MS Excel, the non-responses were recoded with '0'. This was completed in preparation of the data for the descriptive analysis.

The sections within this chapter are lead by a review of the processes of data recoding relevant for each part. Therefore, discussions focus on univariate analysis and discussions around bivariate statistics are saved for the following chapter where such analysis is carried out.

5.5 Descriptive data and preparation

The process of exploration begins with univariate analysis. Univariate analysis provides information on the total sample distributions of a given variable (Oppenheim, 1996; p. 281). This aids an understanding of 'where we are and what we have' in terms of data (ibid.). Such a process involves assessing the parameters of the population including: a review workplace size, ownership and age. The demography of the workforce is then explored including employee sex, management arrangements and occupations. This is followed by a review of the management of the workforce including workplace relations / representation.

A three-tier breakdown of the data is used, when appropriate, with workplaces grouped by size into one of the following categories: 50 – 99 employees, 100 – 199 employees, 200 – 500 employees. These categories were chosen to reflect small, medium and large aspects within the generic group of medium sized firms. These bandings, it is hoped, will aid a greater understanding of whether or not there is a size effect at work in terms of the adoption of HR policies and practices (Arthur, 1992). Whilst not ideal, these bandings closely reflect those adopted by authors of WERS 98. Further comment as to the problems with this banding is discussed later in the chapter.

5.6 Weighting data

Where sample populations differ in size, data within the smaller samples require some manipulation to ensure that comparisons are accurate. This can be seen when comparing information between the populations of differing sizes of organisations. When weighting data the larger response rate is used as the base, and the smaller response rate altered accordingly (Saunders et al., 1997; p.297). Where weighted data has been used it will be noted in the discussion. This was completed in the preparation of the HR policies and practices indices.

5.7 A profile of engineering workplaces

This section aims to provide some general information as to the size and status of workplaces in the sample. Leading on from the previous discussions regarding workplace ownership and investment in HR activities, understanding the population in these terms is important when seeking conclusions.

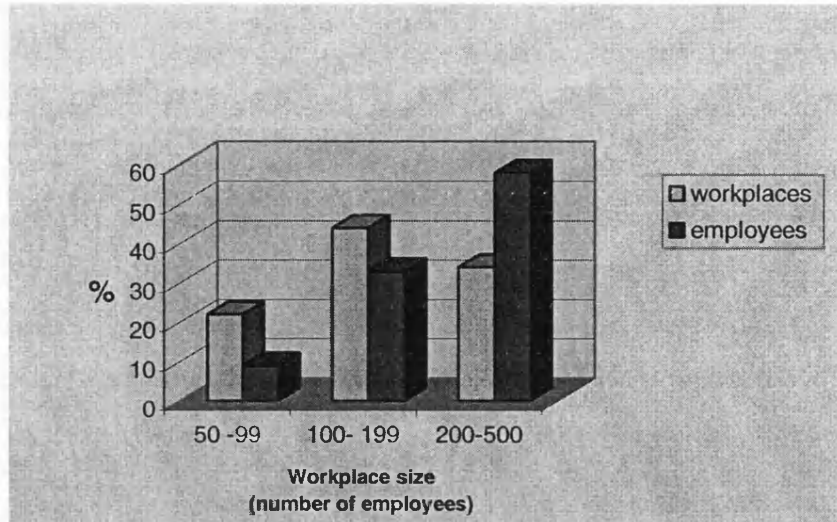
5.7.1 Workplace size

This was measured using the total number of employees working on site. This included management, temporary and agency staff.

Figure 5.1 displays the percentage of workplaces within the sample, that fall into one of the three categories of size (50-99, 100-199, 200-500). This chart shows that the majority of the sample are workplaces with between one hundred, and one hundred and ninety-nine employees, taking 44 percent of the sample. The second largest group of workplaces represented in the sample are the large companies, with 34 percent of the sample. The smallest representation is, therefore, of small workplaces with 22 percent of the sample.

While workplaces with between 200 and 500 employees are the second largest group in the sample, this group represent 58 percent of the overall sample of employees. This is in contrast to the small workplaces whose employees represent only 9 percent of the sample. This data displays a clear skew of the data in terms of the number of employees.

This is important to note for later analysis as any of the human resource policies and practices that are found in smaller workplaces are likely to relate to only a small number of employees (n=57). Also any policies and practices found primarily in large workplaces will relate to 58 percent of the sample of employees.

Figure 5.1 Distribution of workplaces by size

5.7.2 The status of workplaces and organisations

Osterman (1994) suggests that the uptake of HR activities are influenced by the status of the organisation. The status of the organisation depends upon whether it is a stand alone and independent organisation, or whether it forms part of a larger company influences whether HR activities are engaged in. Sites that are part of a larger organisation are best referred to as 'workplaces', and are more likely to engage in HR practices due to access to adequate resources (WERS, 1998).

Table 5.1 shows that the majority of the workplaces included in the sample belong to a larger organisation (81%). This is higher than the WERS 98 data for manufacturing where 60% of their sample represented this status of ownership (p.18).

Table 5.1 Status of the workplace

Status of the workplace	% of sample (n=256)
Independently owned	19
Part of a wider organisation	81

The results show that the *majority* of workplaces in the sample belong to a larger organisation¹, and that 59% of those companies that belong to a wider organisation operate with a personnel specialist. This compares to 37% of independent companies employing a specialist.

Table 5.2 provides further analysis of this data and shows that the majority of the workplaces that are independent have between 50 and 199 employees (84%). This shows that 'smaller workplaces were more likely to be stand-alone' (WERS 98; p.16).

The data from this research sample provides evidence in agreement with WERS that 'larger workplaces were more likely to belong to large ... organisations' (ibid.).

Table 5.2 Workplace status by number of employees

Workplace size (number of employees)	Independent %	Part of a wider organisation %
50-99	43	17
100-199	41	44
200-500	17	39
% of sample size	9	81
N=	49	203

The mid-sized workplaces (100-199) are the most well represented within the overall sample of both independent and those part of a wider organisation.

5.7.3 Ownership of engineering workplaces

There is much written on the role of company ownership, and the impact on the uptake of advanced human resource a system. However, there is little conclusive evidence to either support or reject the proposition that foreign owned companies (commonly Japanese, American or German) are more likely to operate human resource policies and practices.

¹ hence the use of the term 'workplace'

Guest and Hoque (1996), failed to find any support for the hypothesis that foreign ownership of companies, leads to a positive impact on HR policy, practice and outcomes (p.68). These results are consistent with the outcomes of WIRS3.

Purcell (1987) and Marginson et al., (1993) have shown that foreign ownership does have an impact on the HR policies adopted, particularly in terms of communication and involvement. While such studies have provided some evidence as to the presence of the differences, it does not help with an understanding of why such differences occur. The case study analysis will investigate this issue in more detail.

The distribution of workplaces that are part of wider organisation and are either UK or foreign owned is presented in Table 5.3. The distribution within smaller workplaces is balanced, with non-British workplaces at 51 percent and British at 49%. Large workplaces, in this sample, are also a fair mix of ownership. Medium sized workplaces, in this sample, are more likely to be British owned, than non-British owned. Therefore, if we subscribe to the theory that suggests that foreign ownership has a positive impact on HR policies and practices, it is possible to predict that medium sized workplaces, in this research, will be less likely to benefit from this advantage. There is not, however, any further information on the nature of the ownership in the questionnaire e.g. America, German, Japanese, and so detailed analysis will be provided through the cases highlighting individual cases only.

Table 5.3 Percentage of workplaces by ownership

Workplace size	British owned	Non-British owned
50-99	49	51
100-199	70	30
200-500	58	42

These results show that workplaces that are British and non-British owned occupy a variety of sizes in the sample. What the data also shows is that out of the dependent workplaces (n=204), the majority of workplaces are British owned (n=128), with only 77 workplaces owned by foreign investors. The impact of the ownership, on

the employment of personnel specialists, is reflected in the data with 56% of UK owned workplaces have a personnel specialist, compared to 66% of foreign owned workplaces.

5.7.4 Age

The age of the workplace is an interesting factor in the assessment of the adoption of human resource policies and practices. Table 5.4 displays data on the age of workplaces, on the current premises only. This information shows that the majority of the sample had been operating for more than ten years (79%). In stark contrast to this, three percent of workplaces have been in operation for three or less years. When handling the data, is it important to consider that workplaces may have been in operation for in-excess of ten years, as the current information refers to current sites only. This is considered in the case analysis.

Table 5.4 Age of workplace at current premises	
Age of workplace (years)	Percentage of sample
< 3	3
3 – 10	18
>10	79

Cully et al., (1999) comment on the research of Guest and Rosenthal (1993) who find that the employment practices and relationships on greenfield sites are distinctive. This is seen most noticeably in the lack of trade union presence (Millward, 1994; cited in Cully et al, 1999; p.21). The interest in this group of workplaces and the new employment relations is recognised by Guest and Hoque (1994): ‘One of the initial reasons for an interest in non-union establishments was that some appeared to be exemplars of innovative human resource management’ (p. 1).

5.7.5 Summary

From the data presented in this section it is clear that the majority of the sample is taken up by workplaces with between 100 – 199 employees. The majority of

workplaces are at least ten years old, and where they are part of a larger organisation they are likely to be British owned.

The sample of engineering workplaces in this research is diverse, with variations around size, status, ownership and products. An awareness of the nature of the sample will be of significant use when reviewing and analysing the specifics of the data around workforces, management arrangements, and human resource policies and practices.

5.8 Demography of the workforce and management arrangements

To facilitate a greater understanding of the makeup of the workforces in the sample, and the impact that this may have on employment practices such as recruitment and selection or training, this section will review aspects of the data including sex, skill, and status of employment. The benefits of this information are made more explicit during the case analysis.

5.8.1 Employee sex

Unlike studies such as WERS 98, this research focuses on engineering workplaces in the UK. A common conception is that the 'manufacturing' industry is primarily male dominated. While the questionnaire data is not able to provide such detail as the sex of operatives, clerical staff and managers, it is possible to review the makeup of the workforce of the companies.

Regardless of the size of the workplace, males dominate the workforce in engineering. The ratio of male to female staff is approximately 80:20 across the sample. However, with an average standard deviation score of 15 variation in the averages is high and, therefore, this ratio whilst representative does not capture the variation across the sample. WERS 98 figures illustrate that across all workplaces women occupy an average of 48 percent of the workforce, and within 'manufacturing' 26 percent (ibid; p.25). This research sample is very close to this figure at 20 percent. Women have lower representation, than 26 percent, in only two other industries: construction, and transport and communications. It is possible

to predict that the case studies selected from this sample will have workforces dominated by males.

5.8.2 Management representation

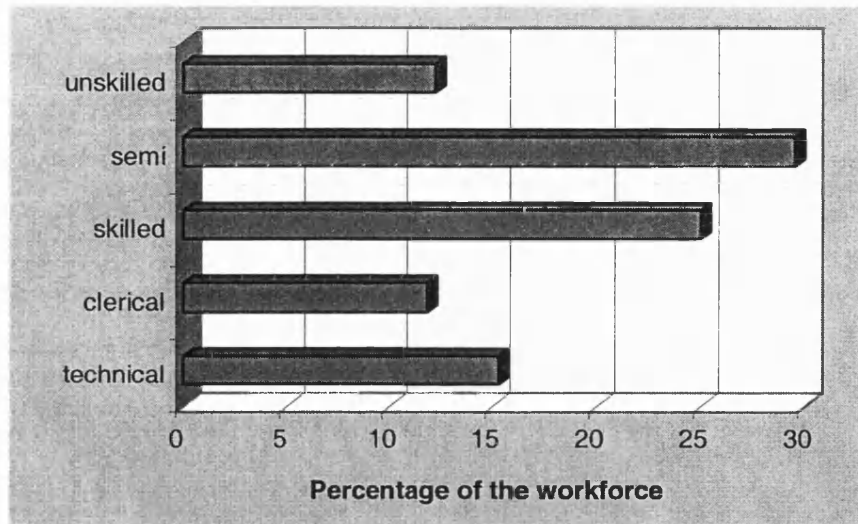
Respondents to the questionnaire were asked to provide information on the breakdown of their workforce by managers, employees (non-managers), and levels of skill. Information was also requested as to the make up of their workforce by part time staff, temporary staff and agency workers. The average percent of managers varies by only a small percentage across size of workplace – between 7 and 10 %. Therefore, there is little difference, with the average of all workplaces operating with 8 percent managers.

The role of management is an important factor in the introduction and maintenance of human resource policies and practices, but remains relatively under-researched. The apparent lack of differences between workplace sizes, in this sample population allows for analysis to move towards the addressing ‘how’ the processes operate. This detail will be explored through the cases.

5.8.3 Levels of skill within the workforce

A natural progression from the managers within workplaces is to review who they are managing. Figure 5.2 shows the distribution of skills across a sample of 242 workplaces. Within the sample semi-skilled employees occupy the greatest percentage of the workforce, at 29 percent, this is less than the West et al., (1995) study where 51% of the sample were semi-skilled . The next largest group are the skilled worker at 25 percent and then the technical workers at 15 percent. At 12 percent, unskilled and clerical workers are the smallest group.

Figure 5.2 Distribution of work force by skill level



The way in which the sample is made up in terms of skill is important. Osterman (1994) proposed that the level of multi-skilling of the workforce positively affects the adoption of human resource policies and practices. Where 69 percent of the workforce is skilled, semi-skilled or technically skilled there is the potential for the data to show a positive bias in the uptake of human resource policies and practices. Again the case analysis is able to identify and challenge these issues.

Cully at al (1998, p.30) address the work of Glynn and Gospel (1993) which reviews the general lack of attention, by British firms, to training and developing employees. It would be rather naïve to suggest that this sample represents an improved level of skill mix within manufacturing workplaces. However, it may provide some insights into what workplaces are doing with their semi / skilled workforces.

5.8.4 Types of work contract

The way in which the employees are engaged, is reflected in the numbers of part-time, temporary and agency workers. Thirty-five percent of the sample state that they do not operate with any part-time workers, with 65 percent operating with part-

time workers. Of this sample 22 percent operate with only one percent part-time workers of the remaining sample 54% operate with less than 10% part-time workers. Therefore, although part-time work can be found in two-thirds of the sample, the use of part-timer workers is fairly.

Interestingly 43 percent of the sample employs temporary workers, with under half of this group using 10 percent or less of temporary staff. Again, the incidence of non-standard employment is high but not extensively adopted. Around a third of the sample use agency staff, again the uptake is low within this sample.

Within the sample of semi / skilled employees there is only a small percentage operating as part time (3%), temporary (1%) or agency workers (1%). Although this sports an average across the sample the Standard Deviation scores of 6, 3, and 3 respectively, highlight that in this sample the majority of employees are working on full time, permanent contracts.

This information may reflect a sample population that has a relatively stable production schedule without the need for a great deal of fluctuation in the staffing numbers, thus reflecting the lack of agency or temporary staff. It may also be the case that, as this population is made up of semi / skilled employees, agency staff are an unsuitable method of plugging the employment gap.

5.8.5 Operating technologies

Osterman (1994) suggests that the level of technology has an impact on the adoption of flexible work practices such as broad job definition, teams, employee problem solving groups, quality circles (p. 173). He argues that the more complex the technology in the organisation, the more likely such 'internal labour market innovations' will be adopted. The rationale of the approach proposes that complex technology is best served in an environment where employees are able to use innovative thinking and move between tasks. Employees require multi-skilling, which in turn relies on significant amounts of training.

It may be suggested that a workforce operating in this way is likely to be semi-skilled or skilled to be able to use the technology effectively. Given that sixty nine percent of the sample population fall in one of the following categories: technical, semi-skilled or skilled, it is interesting to review the levels of operating technologies within the sample. Table 5.5 shows that the majority of the respondents (61 percent) claim to operate with a moderate level of technology and 29 percent, with a level of high technology. This leaves only ten percent of the sample claiming levels of low technology.

Table 5.5 Distribution of workplaces by level of production technology (n=252)

Production technology	Percentage of workplaces (%)
Low	10
Moderate	61
High	29

Overall, therefore, there are more firms claiming moderate or high levels of technology than firms recognising skilled employees. Where high technology reflects the adoption of labour and skill saving technologies, such as robotics, the need for skilled employees may be reduced. However, where high technology reflects the adoption of Statistical Process Controls (SPC) it may be anticipated that there is a need for skilled employees.

5.8.6 Summary

A typical workplace in this sample is one that is dominated by males, who are working in an environment that operates with one manager for every eight to ten employees. The workforce is largely semi-skilled or skilled, working with moderate or high levels of technology.

5.9 Management of the workforce including workplace relations / representation: (trade union representation, workers representatives, JCC)

This section reviews the presence of personnel specialist within the sample, with consideration given to the size and status of the workplace. Analysis will also be provided into the major HR / personnel policies and procedures within the workplaces and at board level.

Consideration will then be given to the presence of trade unions within the workplaces and non-union representation.

5.9.1 Personnel representation

Within the questionnaire the respondents were asked: Does your company have a specialist manager or employee who deals with human resource / personnel issues? Fifty five percent of the sample stated that they did have a human resource / personnel specialist within their workplace. The WERS 98 survey, found personnel representation at the thirty percent level (p. 50), and West et al. (1995), at 60% presence.

Looking at the presence of this specialist role by the status of the workplace, it is clear that those workplaces that are part of a wider organisation have a higher representation of personnel managers / employees than independent workplaces (60 % and 37% respectively). These figures reflect the pattern found in WERS 98, however, in this sample the results suggests higher representation².

Propositions from WERS 3 suggest that the presence of a human resource / personnel specialist will have a positive influence on the introduction of human resource management policies and procedures. It is possible to predict, therefore, that in this sample there will be a higher than average uptake / presence of human resource management policies and procedures due to the above average percentage of human resource / personnel specialists.

² WERS 98 data states that 34% of workplaces within a wider organisation operate with a personnel specialist and 20% of stand alone (independent) organisations have personnel specialists.

5.9.2 Employee representation

Almost two thirds (58%) of the sample indicated that they operate with a trade union for consultative or collective bargaining purposes. Those companies that do not recognise a trade union for these purposes, were asked whether they had a non-union representative, or committee, for employees (Qu.33). Only 44% of this population, without trade union representation, replied to this question. The results have been weighted and presented in Table 5.6.

Table 5.6 Consultative arrangements across all workplaces

	Trade unions recognised for consultative or collective bargaining purposes	Non-union representation / employee committee	
	Percentage of workplaces (n=256)	Percentage of workplaces (n=115)	
<i>Workplace size</i>		Non-weighted data	Weighted data
50 – 99	40	23	51
100 – 199	57	27	59
200 – 500	72	18	40
<i>Age of company on current site</i>			
3 years or less	29	29	64
3 – 10 years	32	32	70
10+ years	65	21	46
<i>Status of the workplace</i>			
Independent / stand alone	43	18	40
Part of a wider organisation	62	24	53
<i>all workplaces</i>	<i>58</i>	<i>23</i>	<i>51</i>

5.9.3 Trade union representation

What is noticeable in the data is that the larger workplaces have the highest representation of trade unions for the purpose of consultation. Similarly, the older the workplace, the more likely representation is recognised.

In contrast to this the small sample of workplaces that recognise employee committees or another non-union set up are most likely to have less than 199 employees, and be less than ten years old. This information presents small, young workplaces as adopting employee representations through 'other' employee committees. This may be due to a variety of reasons including: a reflection of a conscious strategy to disengage trade unions, that trade union organisations are not interested in initiating membership in small workplaces, or that the employees within these small, new workplaces are not interested in becoming a member of a trade union, thus reflecting the larger debate around the decline of trade union membership.

5.10 Conclusions

This initial presentation of the data highlights a number of characteristics that of interest in the later analysis. With a response rate of 25 percent, and 256 workplaces, sample provides a diverse range of engineering workplaces on which to conduct analysis. How diverse the sample is has been reflected upon in this chapter, and the implications of the characteristics of the data are summarized here.

The sample has reasonable representation of differing sizes of workplaces with the 100-199 group being the largest. This is useful, as the current evidence suggests that the larger the workplace the more likely the adoption of HR policies and practices (Arthur, 1992; Osterman, 1994). The smallest workplace (50-99 employees) are the least well represented in the sample, and so it is mindful in the statistical analysis to consider that the results may not reflect what is happening in the smaller workplaces.

The majority of the workplaces in the sample are part of a wider organisation. Again, there is evidence to suggest that these workplaces may have and increased opportunity to adopt HR policies and practices, due to great pool of resources

(Arthur, 1992; Ingham, 1970; Osterman, 1994). Therefore, it is necessary to consider that the sample may have a high incidence of HR policies and practices related to the status of the workplace.

Combining the data on the size and status of companies in the sample it is clear that the independent workplaces tend to be smaller in size. Based on the existing evidence there is a heightened chance that this group will be disadvantaged in the opportunity to adopt HR policies and practices.

For those workplaces that are part of a wider organisation the ownership, there is a balance between non-British and British. The impact of the assumptions about foreign-ownership, that it enhances the uptake of HR (Osterman, 1994), is likely to be prevalent.

Most of the workplaces in the sample are 10 years old or more. In accordance with the Greenfield ideology (Guest and Hoque, 1996; Arthur, 1992), it may be anticipated that the sample will present a lower level of HR.

Finally, the sample appears as semi-skilled / skilled, where employees work with moderate levels of technology. Following Osterman (1994) and Appelbaum et al., (2000) it is possible to suggest that the levels of HR will be raised due to the technology. The workplaces also operate with high levels of personnel specialist (WERS) and trade union representation (Cutcher-Gershenfeld, 1992; Arthur, 1992; Thompson, 2001) enhancing, as they are suggested to do, the levels of HR.

All of these factors follow many of the propositions that were considered in earlier chapters. The following chapter addresses these issues through a variety of statistical tests.

6

HR and performance in context

6.1 Introduction

This chapter focuses on the research questions (1-5) and how the data can be used to explore the questions. In answering each research question the data has required some degree of manipulation, and explanations of each of the processes is provided at the beginning of this chapter, and during the chapter where appropriate.

Research question 1: To what extent have medium sized engineering workplaces adopted human resource policies and practices?

Research question 2: What is the contribution that human resource policies and practices make to business performance through competitive advantage in engineering workplaces?

Research question 3: Under what circumstances are human resource policies and practices most likely to be introduced into engineering workplaces?

Research question 4: Under what circumstances are human resource policies and practices successful in achieving business performance improvements through competitive advantage in engineering workplaces?

Research question 5: Do human resource policies and practices appear in combinations in engineering workplaces?

The analysis, for the majority of the statistical tests, relies upon the sample of 256 workplaces. Where this is not the case the number of workplaces used in the analysis is referred to, in particular in answering research question five the total population is reduced.

6.2 Data preparation for univariate statistics

Researching medium sized workplaces in order to answer research question 1 required establishing the incidence of innovative HR policies and practices. The following list of policies and practices represents those aspects of HR measured by the questionnaire. The selection of variables coincides with the existing research and the commonly reviewed variables adopted by authors including MacDuffie (1995), Youndt et al. (1996) and Delery and Doty (1996) (see appendix II). This is with the exception of 'performance targets set by employees' and 'employees responsible for quality'. These variables were added following a review of the work of Arthur (1992, 1994).

This list is later developed for analysis of the data in answering research questions 2 and 5 with the addition of details around training activities following the work of MacDuffie (1995) and Huselid (1995).

Table 6.1 List of HR policies and practices

Research questions 1, 2, 3, 4 and 5	<i>HR policies and practices</i>
	team work
	performance targets set by employees
	employees responsible for quality
	job rotation
	feedback on production goals
	Quality Circles
	jobs designed to utilise the skills of employees (narrow or broad)
	Trainability
	psychological tests
	team briefings
	attitude surveys
	yearly appraisals
	suggestions encouraged
	no / flexible job descriptions
	% days training
Research question 2 and 5	employee induction – number of hours
	employee off the job training – number of hours
	employee on the job training – number of hours
	staff induction – number of hours
	staff off the job – number of hours
	staff on the job – number of hours

While many of the HR activities listed above were recorded on the questionnaire using a yes or no reply there were a number of activities that could be answered using one out of three replies. These activities were considered and the categories collapsed into two categories to match a yes / no answer. This was done in the following way:

The number of training days on average for the preceding year for the majority of employees provided three categories of data; those employees receiving less than one

day, those receiving between 2 and 10 days and those receiving more than 11 days. These categories are represented individually in figure 6.2.

Responses to qu. 24 on whether jobs are deliberately designed to utilise the skills and knowledge of employees were coded in to three categories. These categories were collapsed into two representing 1) workplaces that sometimes or always design jobs to utilise skills and knowledge and 2) those workplaces that never design jobs to this effect. This was done to facilitate a picture of innovative workplaces and traditional workplaces. The 'sometimes' category was included in the first category as 'sometimes' may represent employers who design jobs for a section of the workforce and are therefore engaging in human resource activities. The effect of collapsing the categories in this manner is that 56 percent of the sample fall into this category, as opposed to 21 percent that always use job design. Clarity as to the interpretation of sometimes may be considered through the case company interviews.

Information on the use of job descriptions (qu. 25) was coded into three categories as presented in the questionnaire. These categories were collapsed into two to represent 1) workplaces that operated with no job descriptions or flexible job descriptions and 2) those workplaces operating with detailed job descriptions. This dichotomy is appropriate as a flexible job description reflects an innovative HR practice.

Workplaces that indicated that they operated a suggestion scheme (qu. 27), but failed to indicate that employees were encouraged to make suggestions (qu. 28), either by answering 'no' or by a non-response, were not included in the sample of 44% workplaces that encourage suggestions from their work force¹.

¹ A further funnelling of information using questions 29 and 30 was not completed. This was due to comments on the questionnaires that the suggestion scheme was a new practice and, therefore, respondents were unable to comment in a representative way on the number of suggestions received and implemented.

6.3 Data preparation for bivariate statistics

In order to establish relationships and differences between variables within the data a number of bivariate tests have been adopted including cross tabulations. A critical decision in the selection and adoption of statistical tests is whether to adopt parametric or non-parametric tests.

There are three conditions reported to affect the decision about parametric or non-parametric tests. A number of authors suggest that parametric tests are appropriate under the following conditions (Bryman and Cramer, 1997; Greene and D'Oliveira, 1992):

- the level of measurement (recorded responses) is of equal interval or ratio scaling e.g. numbers with specific distances between them, so that the scores can be ranked
- the distribution of the population scores is normal
- the variability of the scores in each condition should be approximately the same i.e. variances of both variables is equal or homogenous.

Greene and D'Oliveira (1992) suggest that where these conditions are not met a non-parametric alternative should be sought. However, Bryman and Cramer (1997; p.117), argue that the need to meet the requirements for parametric tests may be unnecessary thus opening up opportunities to adopt such tests for ordinal data.

In the following sections non-parametric chi-squared test tests are used to compare various populations within the data. This test is appropriate given the nature of the data. Invariably the transformation of data required for the adoption of a test such as a chi-squared test means that some of the information is lost in the process (Oppenheim, 1996; p.287). However, this loss is counterbalanced through the use of the descriptive statistics and the case studies.

In preparation to answer question two, a data set of two populations was created. Initially the sample was split into those workplaces that operated with a 'high' number of innovative policies and practices, and those that operated with medium

and lower numbers. This was created using the list of HR activities at the beginning of this chapter.

6.4 Human resource management index

The data from the twenty-one policies and practices - a combination of nominal, ordinal and interval data - was weighted to form a human resource management index scored out of 21 with each variable scoring out of 'one'.

The human resource management index enabled each case to be ranked in order of adoption of policies and practices. Using this information the data was to be split into the categories of high, medium and low uptake of human resource management, with the purpose of identifying a small group of workplaces that operate with a significantly high number of reported practices. Prior to placing each of the engineering workplaces into a category, a review of the existing work into HR and performance was conducted (WERS, 98; Thompson, 1998). Resulting from this review was a lack of substantial evidence as to the way in which a list of HR policies and practices is divided into high, medium and low. What evidence there is can be found in the work of Cully et al. (1998), and Thompson (1998).

In their 'first findings' of the WERS data Cully et al. (1998) divide 16 HR practices into categories of 0, 1-2, 3-4 5-7, 8-10, 10+. In the later Britain at Work (WERS study) the authors divided their 15 HR practices into categories of 0-3, 4-7 and 8+. This represents 0-20%, 26-46% and 53-100% level of adoption of the possible HR practices. This presented the authors with a 'high' HR population of 14 percent of the overall sample, moderate of 57% and a low category of 29%.

The process of reviewing and categorising the questionnaire data in this study, regarding the numbers of adopted HR policies and practices, was pragmatic. Initially the data was divided to reflect the process adopted by the WERS authors, with a split of 0-4, 5-10 and 11+ policies and practices². In taking this approach the category of 11 or more policies and practices represented those workplaces adopting

² 0-4 practices is 0-19% adoption; 5-10 practices is 24-48%; 11+ is 52-100%

a 'high' number of practices. The sample population of those workplaces adopting 11 or more policies and practices was 48% of the original population. The category of 5-10 policies and practices attracted 50% of the sample and the 0-4 group was 2%. This outcome may have been predicted, where the average number of policies and practices adopted by the engineering workplaces in this study was 10. This lack of discrimination between workplaces with 'high' numbers of HR policies and practices against those with 'average' or 'medium' numbers, showed that by attempting to reflect division of the HR list in the way that WERS had done was unhelpful³.

A second attempt at creating categories of workplaces, by the number of HR policies and practices, was done using simple thirds. The sample of workplaces was divided up using the following numbers of HR policies and practices 0-6, 7-13 or 14+: a 'high' human resource management workplace reported 14 or more practices, representing an adoption of at least 66% of the possible policies and practices. A 'medium' HR workplace operated with between 7 and 13 practices (33 – 65% of the potential HR policies and practices), and a workplace was categorised as having 'low' HR where the reported adoption was between 0 and 6 practices (0 – 32%).

One of the key purposes of identifying 'high', 'medium' and 'low' workplaces was to isolate a small number of engineering sites for further study, in particular for the later case analysis. By dividing the sample of 256 workplaces by thirds of HR policies and practices a small selection of high-HR engineering workplaces was identified. The distribution of cases by HR levels is as follows: high = 40 cases or 16% of the total population, medium = 199 or 78%, and low = 17 or 6%. In adopting this categorisation the 'high' category is similar in percentage to the WERS study.

For the purposes of data interpretation the medium and low categories were collapsed into one. This presented two populations: workplaces with high levels of HR (n = 40), and workplaces with medium / low HR levels (n = 216). This very

³ The level of appropriateness of the process of dividing up samples on the grounds of HR policies and practices appears to depend upon the nature of the reporting of adoption of policies and practices by the workplaces.

large category could be divided further to conduct more analysis, however, for the purposes of this research the 'high' category is to receive the greatest attention.

For research question three a similar process of collapsing categories was completed for the following variables, enabling two sample populations to be created in order to adopt a chi-squared test:

Age of the workplace. The age groups (qu. 7) were collapsed from less than 3 years, 3-10 years, and 10 years or more coded 3, 2, 1, into two categories less than 3 years = 2, 3 or more years = 1.

The level of operating technology. The technology groups (qu. 6) were collapsed from high, moderate and low categories coded 3, 2, 1, into two categories high = 2, moderate and low = 1.

Some of the governing rules of chi-squared test are considered before and during analysis. Each analysis has had Fisher's exact-test conducted, which provides probabilities for samples of less than five cases.

6.5 Performance index

The performance data for each case is recognised in a performance index, and is used in answering research question 2, and 5. The index is made up of seven performance indicators, which are discussed below.

Labour turnover (qu. 49) was requested on the questionnaire. The average percentage turnover is 8 with a standard deviation of 9. The maximum recorded was 100%, thus showing the variance in the data. Such outliers were removed and the average percentage calculated, however, there was little difference in the score in comparison to leaving the outliers in the data. Therefore, the average percentage in calculated across the complete sample of 256 cases.

Using the parametric Pearson correlation co-efficient (relevant for the interval data of labour turnover) there is a correlation between labour turnover and redundancies (38% of the sample; qu. 55.7) at the $p > 0.05$ level. The non-para test is not significant. Given that redundancies are not a representative reflection of the performance of an workplace, and may reflect contextual factors including changes in the global market, this measure was not used in the performance index.

Employee absence is an interesting measure of performance and is adopted in a number of studies (Arthur, 1992; WERS 98). Referring to the WERS 98 study, it is noted that manufacturing firms average a 4.7% absence rate per 100 employees (p.132). This compares to an average rate of 3.9 % absence for private sector organisations (p.128). The average absence figure for this data set is 4.3%. For the purpose of the performance index each case was scored as a high (=0) or low (=1) where a high score is an absence rate at the 4.3% level or lower.

The second part of the performance index is made up of the data from question 53. This question requested the subjective view of the respondent on issues such as the level of employee commitment, and the quality of work by employees. The questions were coded with a score of 2 for a positive reply. These scores were recoded to a value out of 1, to be equally weighted with the other performance scores. The score for each case is then added together to provide a score out of five, with five as the highest performer for this section of the index. These scores formed the employee performance index.

Question 51 requested information as to the differences between projected and actual quality attainment. This question failed to elicit a consistent data set and therefore, was discounted from the performance index.

Finally, 22% of the sample claimed that delivery time was crucial in the competitive success in the market in which they are operating (qu.48). However, question 52 asked the respondents to provided specific delivery data (What is your % delivery performance? i.e. delivery on time) and this was included in the performance index. The average percentage delivery was 85, with a standard deviation of 16. Cases

were recoded into high = 1, where the delivery performance was 85% or higher, and low = 0 where the delivery performance was 84% or lower.

These three variables are then used to produce a performance index score for each cases. Where a case scores 7 it signifies a high performer, where a case scores 0 it signifies a low performer. Each case is given a performance index score. The average score across the sample of 249 is 4.8.

The development of indices for HR and performance data is not unique to this field of research (Arthur, 1992; MacDuffie, 1995; Huselid, 1995). The make up of the HR index in this work is somewhat more thorough than previous work, where the researchers have conducted particular selection of HR variables. In the WERS study 15 HR variables were adopted. The inclusion of 21 HR variables here does not imply a lack of clarity as to what to include or exclude. The inclusion of 21 variables is aimed at being as open-minded as possible in the HR-performance debate. By selecting out HR practices there is a danger that an important part of the picture may be missed, and an assumption of 'best practice' may be super-imposed. Each HR practice is given the same weight, as existing empirical work does not offer any guidance as to discrimination between the value of practices. Such a lack of discrimination does not suppose that each practice has the same value to the individual organisations (Richardson and Thompson, p.25).

There are a number of HR variables that are left out of the statistical analysis. These HR variables are difficult to measure using a questionnaire, and are better left for the more detailed research process of the case study. These include conflict resolution (Arthur; Cutcher-Gershenfeld), social events (Arthur), supervisor span of control (Arthur). Such HR activities are best measured by the views and experiences of employees rather than through a measure of incidence.

6.6 The adoption of HR – considering research question 1

To what extent have medium sized engineering workplaces adopted human resource policies and practices?

The construction of the questionnaire allows a report of the incidence of HR policies and practices to be established. Following the six key factors of HRM as described by Purcell (1996), the following Table 6.2 presents the frequency, or incidence, of HR policies and practices across the complete sample population. Following this figure is a guide to the construction of the list in terms of incidence of activities.

Figures from the WERS data set are included here for comparative approach. The HR variables between this study and the WERS study are largely comparable, but not identical. A brief discussion of the differences and similarities is presented after the table.

Table 6.2 Frequency of HR policies and practices (N=256)

HR policies and practices	Percentage	
		WERS
Careful recruitment and selection		
Employees selected using trainability	59	53
Employees selected using psychological tests	33	22
Flexible job design and team-working		
Flexible or no job descriptions used	76	n/a
Team work	80	65
Jobs are always/sometimes designed to utilise employees skills and knowledge	56	n/a
Extensive communication systems		
Team briefings	81	61
Feedback on production goals	49	n/a
Attitude surveys	30	45
Performance appraisal linked to reward systems		
Yearly appraisal	58	56
Employee involvement in decision making processes		
Suggestions encouraged	44	33
Employees responsible for setting performance targets	55	49
Quality circles	72	42
Employees responsible for monitoring quality	92	1
Significant levels of training and learning		
Training per employee per average year:		
1 day or less	35	
2 – 11 days	59	
Most employees receive a minimum of 5 days per year		12
More than 11 days	6	

From a comparison of the two sets of data the most significant discrepancy is between the incidences of employees responsibility for quality. The WERS study (p.119) shows that 83 percent of their workplaces operate with at least two methods

in place to monitor quality. However, when it comes to employees having sole responsibility for monitoring quality there is little evidence to support this (ibid.). What the WERS evidence does show is that self-assessment tends to be operated along-side the use of quality inspectors. It is clear that this aspect of the HR list requires further investigation through the cases, where interpretations can be more easily explored.

The generic adoption of 'psychological' tests is used by around a third of the workplaces in this study. The data is not immediately comparable with WERS where the adoption of personality tests (22%) and attitude test (53%) were measured. The study found that personality tests are most commonly used in the selection of managers (70%), and that their adoption for all groups of staff was reduced to only 4 percent (p.60). The figures in this study appear to be relatively high in this comparison.

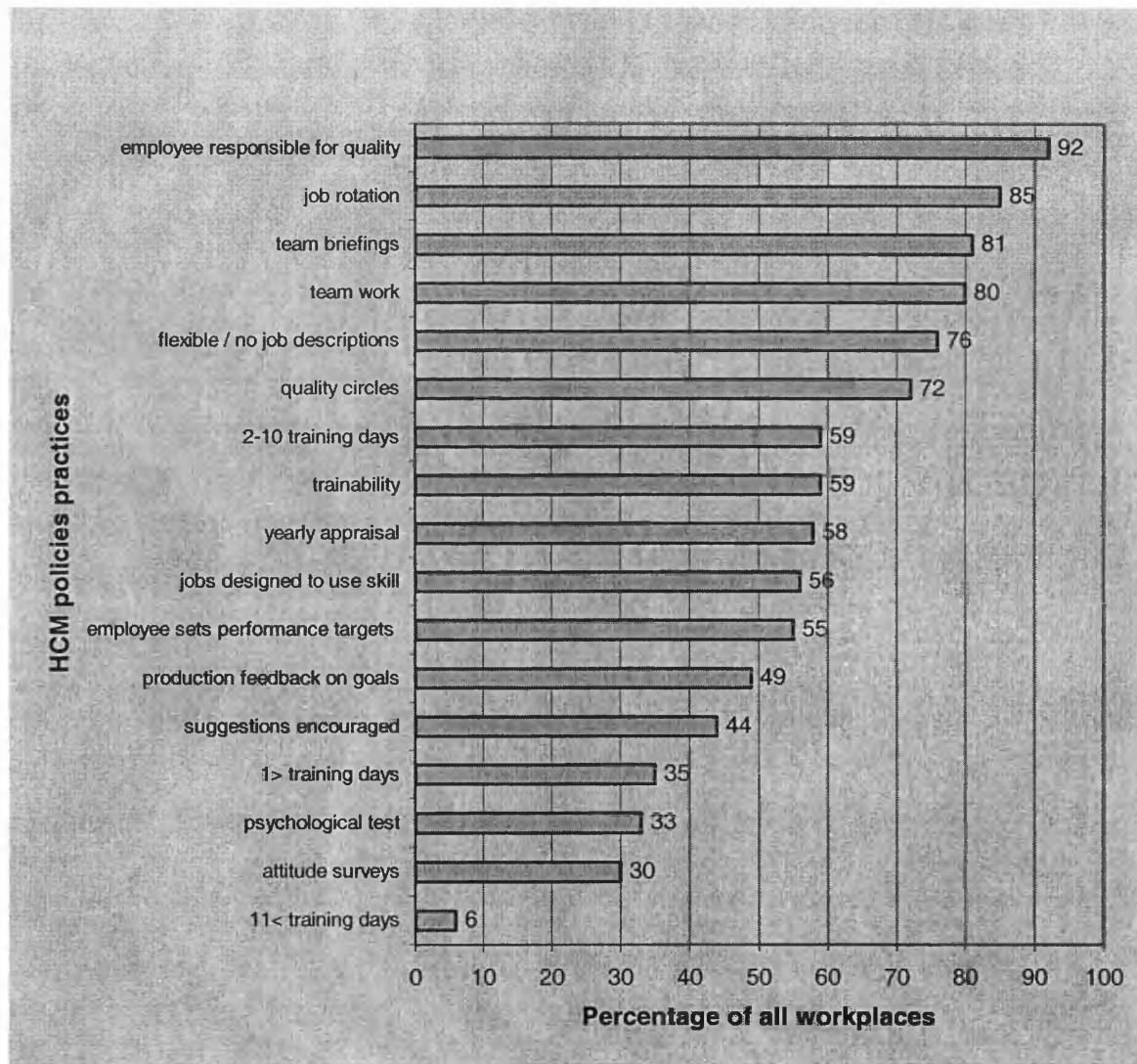
A further area where this research has attracted higher incidence figures than in the 1998 WERS data, are in the adoption of teams, and the use of team briefings. This may be attributed to the level of detail in the questions. The WERS study focused on the area of 'most employees work in formally designated teams' (Cully et al., 1998; p.10). This work questioned whether the workplace operated team working with a yes / no reply. The concepts of team working may be open to interpretation and require further clarification.

Finally the measure of attitude surveys is lower in this research population than in WERS, where respondents were required to have operated an attitude survey in the past five years. In the questionnaire for this work this five year caveat was not added and, therefore, reflects a more recent reflection of the operation of attitude surveys.

The comparisons between this data and the data from the WERS study does not seek to suggest that one set of data is stronger than the other, but to identify areas for further consideration.

A diagrammatic representation of the research figures from this study is presented in the following Figure 6.1. This provides interesting evidence when answering research question one as it shows that the sample population is engaging in a number of HR policies and practices.

Figure 6.1 Distribution of HR policies and practices



N=256

6.7 HR and performance – considering research question 2

What is the contribution that human resource policies and practices make to business performance through competitive advantage in engineering workplaces?

Successful links have been made between performance and human resource in existing studies (Huselid, 1995). However, these studies have received criticisms for their lack of detail and inability to explore the nature and causality of the links.

The measure of performance within the questionnaire was limited to aspects of personnel and operational data. Personnel measures include labour absence, turnover, employee commitment and quality of work. Operational measures include changes in scrap rates and delivery on time. Such measures seek to provide information on groups of companies operating with different levels of HR policies and practices. This information can then be compared with other groups of workplaces from within the sample population. Data was not sought on the financial well being of any workplaces, due to the previously discussed reasons regarding response rates.

The role of human resource management in medium sized workplaces will, in the first instance be addressed at a simple level using measure of employee performance, operational issues and the adoption of the performance index.

The following Figure 6.2 shows the percentage of workplaces replying to five questions regarding employee performance. This data is also used in identifying differences between high, moderate and low human resource management workplaces.

Figure 6.2 Performance measures in high, medium and low HR workplaces

Question 53	Total population	High HR	Medium HR	Low HR
Strongly agree / agree				
The level of employee commitment to the company is high	72	90	69	71
Worker hours lost to scrap are low	61	60	61	41
It is easy to respond rapidly to market demand through flexible employment practices	62	70	62	53
The quality of work by employees is better than a year ago	60	78	59	29
The company is satisfied with the levels of performance	56	48	56	65

Exploring performance in terms of employees, it is clear that the 'high' HR group has high levels of employee commitment, improved quality of work by employees, a flexible work force and is striving for better performance, being currently dissatisfied with overall performance. The medium HR group again reflects the overall sample.

The low HR group displays a reasonable level of employee commitment that is slightly higher than the moderate HR group. However, the worker hours lost to scrap are relatively high. Similarly, the quality of work completed by employees is no better than the previous year. Compounding these performance issues are inflexible work forces, contrary to the use of flexible job descriptions.

Notwithstanding all of these issues this group of workplaces (low HR) is the most satisfied with the levels of performance (65%). This is an interesting result. This group of workplaces is clearly content with poor scrap rates and unchanging quality of work. It is not possible to comment on why this is the case for this group of workplaces, however, scrap, quality and flexibility appear to be irrelevant measures of performance. For this group there appears to little requirement to be concerned with these issues for them to be satisfied with their performance levels. This may reflect a engineering and HR approach that is more traditional in its approach, thus proposing more volume-based industries where performance-savings are made through employee costs rather than by reducing scrap, and the quality of the work or product is of little consequence.

The following information (Table 6.3) shows the levels of labour absence and turnover, and delivery on time performance for the total population and each of the HR populations.

Table 6.3 Performance indicators by level of HR practice

		Level of human resource management		
	Average %	high	moderate	low
Absence	4.3	4.1	4.3	4.7
Labour turnover	7.8	6.4	8.4	7.2
Delivery on time	85.0	90.2	85.5	69.2

Comparing the labour absence for the total population with that from WERS 98, this sample has a slightly lower rate of absence at 4.3% with manufacturing within WERS 98, represented at 4.7%

It is clear that the 'high' HR group exhibits lower levels of absence and turnover, and higher delivery achievements in comparison to the norm of the total population. The moderate group is representative of the norm, with higher levels of labour turnover.

Finally, the low human resource management group an interesting mix of poor delivery, high absence within a reasonable level of labour turnover. Reflecting on the previous discussion regarding the apparent traditional industry approach that the low HR group seems to represent, it is possible to suggest that poor delivery and high absence are poor indicators of performance for this group. Where employees are another resource within the organisation, and are not valued sickness may become part of the culture. The reasonable level of labour turnover may be a reflection of the relatively high employee commitment indicated by this group. Such commitment may come as a result of many issues such as being geographically immobile.

The following information (Table 6.4) shows that the 'low HR' group is under-represented in terms of high technology, but not in any other category. With low and moderate levels of technology employees are likely to be semi-skilled. Where levels of low technology is common scrap rates may be expected to be higher as the opportunity for error is enhanced.

Table 6.4 Level of operating technology by level of HR practice

		Level of human resource management		
Technology	Average %	high	moderate	low
High	29	44	27	18
Moderate	61	54	61	70
Low	10	3	12	12

Workplaces adopting high numbers of human resource management policies and practices are more likely, than moderate or low human resource management workplaces, to:

- have lower than average absence rates
- have higher levels of delivery on time
- have established very high levels of employee commitment and seen improvements in the quality of work by employees in the last twelve months.
- have the ability to respond to changes in market demands with ease
- and be striving for improvements in the levels of performance.

However, the high HR group is the least satisfied with the levels of performance. This result is contrasted with the low HR group that is the most satisfied with the levels of performance. This result may suggest that low HR workplaces are apathetic in their approach to improving performance, choosing to be satisfied with poor improvements in the quality of work and high scrap rates.

High HR workplaces, however, present a picture where improvements in the quality of work by employees, high levels of employee commitment and a flexible work force is not adequate for 52% of the sample. Such results may begin to help understand why low performing workplaces remain low performing, and high performers continue to succeed.

Using a Pearson correlation, as the data is interval in nature, the relationship was relatively significant at the $p > 0.05$ level, with a score of 1. (non-parametric at the 0.01 level). This shows that a high number of human resource management policies and practices adopted the better the achievement of a high performance index score.

Table 6.5 Correlation of HR and performance indices

Correlation of HR and performance indices

		HR index	Performance index
HR index	Pearson	1.000	.132 *
	Sig. (1-	.	.019
	N	249	249
Performance index	Pearson	.132 *	1.000
	Sig. (1-	.019	.
	N	249	249

*. Correlation is significant at the 0.05 level

The following questions are answered using simple chi-squared test and correlations. The data used for these tests is as close to the original data as possible. Later in the chapter the adoption of cluster analysis presents alternative populations that may have been used in the following tests, however, the value of presenting data that has undergone fewer manipulations is important in the development of representative results.

6.8 Introducing HR – considering research question 3

Under what circumstances are human resource policies and practices most likely to be introduced into engineering workplaces?

6.8.1 When the workplace is less than three years old?

The majority of the workplaces that completed the questionnaire had been on their current site for ten or more years. It is unsurprising, therefore, that the older workplaces dominate each of the high, moderate and low HR groups. Interestingly, Table 6.6 shows that the low HR group has the highest percentage of older workplaces and no workplaces that are three years old or less.

Table 6.6 Distribution of workplaces by uptake of HR and age of site

Age	High HR	Medium HR	Low HR	Average number of HR per workplace
10+ years	78	77	95	8.5
3-10	20	20	5	9.3
3>	2	3	0	8.7
	100%	100%	100%	

There is no clear evidence that the age of the workplace affects the introduction of HR policies and practices. The cross tabulation data relating to these variables identifies that the distribution of cases into the four categories is as expected. This signifies that the distribution of cases in each variable is due to chance. Therefore, there are no differences in the introduction of HR policies and practices dependent on workplace age (Pearson chi-squared test, one tailed hypothesis, $p > .7$; two tailed hypothesis $p > 1.0$).

6.8.2 When the workplace is large (more than 200 employees)

From Table 6.7 below, it is possible to see that the number of workplaces falling in to the high HR and large workplace size category is 18. This actual count is almost double the expected count of 9.7. Similarly the moderate / low HR and small workplace size category also displays a higher actual count than the expected count. The significant chi-squared result (Pearson chi-squared test, $p > 0.001$), shows that these differences are not due to chance. Therefore, a relationship exists between workplace size and the introduction of HR policies and practices, with high HR policies and practices occurring in workplaces that are large.

Table 6.7 HR uptake and workplace size (crosstabulation)

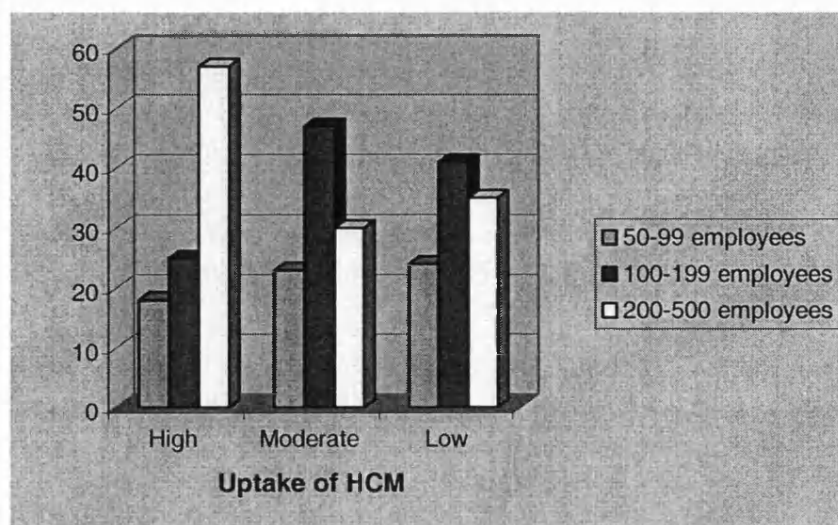
human resources and workplace size					
		HR			
			Moderate/ low	High	Total
Number employee s	50 - 199	Count	151	17	168
		Expected	141.8	26.3	168.0
		Residual	9.3	-9.3	
	200-500	Count	65	23	88
		Expected	74.3	13.8	88.0
		Residual	-9.3	9.3	
	Total	Count	216	40	256
		Expected	216.0	40.0	256.0

Chi-Square Tests

	Value	df	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	11.238 ^b	1	.001	.001
Fisher's Exact Test			.002	.001
N of Valid Cases	256			

a. Computed only for a 2x2 table

b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 13.75.

Figure 6.3 Distribution of workplace by uptake of HR and size

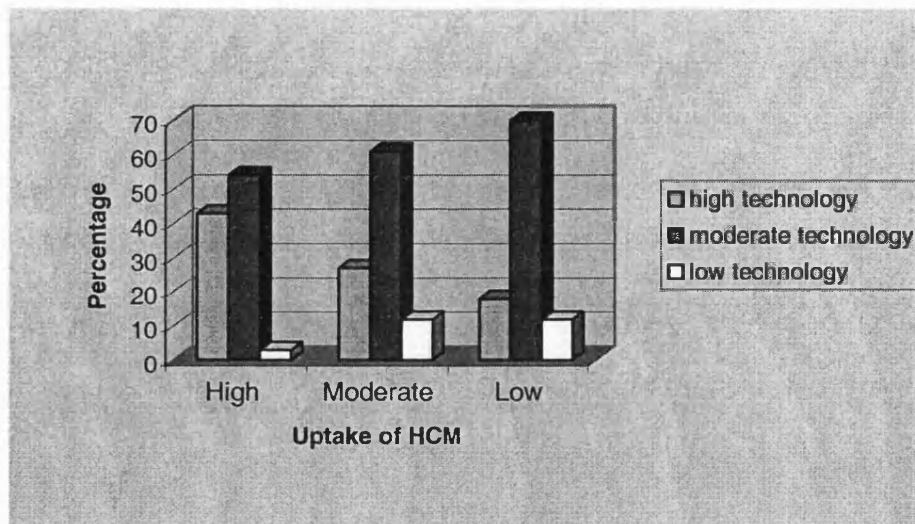
6.8.3 When the workplace is part of a larger organisation

The propositions of Arthur (1992) Osterman (1994) and Ingham (1970) are disputed by the following results that suggest that the adoption of high numbers of HR policies and practices are not related to whether the workplace is part of a larger workplace (chi-squared test, one tailed hypothesis; $p > .5$). These results show that the distribution of cases within the variables is almost (+ or – 0.5) as expected. Therefore, it is not possible to predict the introduction of HR using workplace status in this sample.

The characteristics of the whole sample showed that 44% of workplaces had between 100 and 199 employees. Following closely were the larger workplaces of 200-500 employees with 34% of the sample. It is clear from Figure 6.3 that large workplaces occupy the majority of the sample at 58%. The medium and small workplaces share the remaining sample relatively equally. For the moderate and low HR groups the medium sized workplaces of 100-199 employees are the best represented.

6.8.4 When advanced technology is used in the production methods

Figure 6.4 shows that moderate levels of technology dominate each of the three HR populations. This reflects the total population where 61% of workplaces have moderate technology levels. It is interesting to note that 40% of the high HR group of workplaces has high technology with only 3% operating with low technologies. This is in particular contrast to the low HR workplaces where high and low technologies exist in near same numbers.

Figure 6.4 Distribution of HR and workplace technology

In blending the moderate and low HR populations together the differences in the adoption of HR as determined by operating technologies becomes clearer. The distribution of cases in the following figures reflects the prediction that high levels of HR policies and practices are present in workplaces operating with levels of highly complex production technology. Similarly, low levels of HR policies and practices are present in workplaces with moderate or low complexity of technology. These results are significant at the $p > 0.05$ level (Pearson chi-squared test). The differences are seen in the residuals of (+) 8.7, in the high / high and low / low/moderate categories.

Table 6.8 HR and workplace operating technology (crosstabulation)**Crosstabulations: human resources and level of operating technology**

			technology		Total
			low / moderate	high	
human resources	moderate / low	Count	158	56	214
		Expected Count	152.3	61.7	214.0
		% of Total	62.5%	22.1%	84.6%
		Residual	5.7	-5.7	
	high	Count	22	17	39
		Expected Count	27.7	11.3	39.0
		% of Total	8.7%	6.7%	15.4%
		Residual	-5.7	5.7	
Total		Count	180	73	253
		Expected Count	180.0	73.0	253.0
		% of Total	71.1%	28.9%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4.877 ^b	1	.027	.034	.024
Continuity Correction ^a	4.066	1	.044		
Likelihood Ratio	4.583	1	.032	.034	.024
Fisher's Exact Test				.034	.024
N of Valid Cases	253				

a. Computed only for a 2x2 table

b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 11.25.

6.8.5 Where major customers are concerned with quality issues

Beaumont et al. (1996) suggested that the uptake of relevant HR policies and practices was related to customers' interest in HR and quality issues. This supply chain argument is not supported by the results by the questionnaire results. With a Pearson chi-squared test 0.2, it is clear that the distribution of cases is expected.

Table 6.9 HR and role of the customer in quality practices (crosstabulation)

Crosstabulation: human resources and customers influencing quality practices

			customers influenced quality		Total
			no	yes	
human resources	moderate / low	Count	43	170	213
		Expected Count	40.4	172.6	213.0
		% of Total	17.0%	67.2%	84.2%
		Residual	2.6	-2.6	
	high	Count	5	35	40
		Expected Count	7.6	32.4	40.0
		% of Total	2.0%	13.8%	15.8%
		Residual	-2.6	2.6	
Total	Count	48	205	253	
	Expected Count	48.0	205.0	253.0	
	% of Total	19.0%	81.0%	100.0%	

6.8.6 Where customers are interested in HR issues

A relationship exists between the introduction of HR policies and practices and a customer influencing the HR practices within a workplace. This relationship is significant (Pearson chi-squared test, $p > 0.01$).

The direction of this result also supports the suggestion that HR policies and practices are less likely to be introduced into a workplace where there is little or no interest in HR by the customer. This places the customer in a significant role in

influencing the practices within workplaces in the sample. Customers are, therefore, acting as a driving force behind some of the activities within the sample population.

Table 6.10 HR and role of the customer in HR practices (crosstabulation)

			customers interested in human resources		Total
			no	yes	
human resources	moderate / low	Coun	15	57	207
		Expected	141.	65.4	207.
		% of	60.7	23.1	83.8
		Residu	8.4	-	
	high	Coun	19	21	40
		Expected	27.4	12.6	40.0
		% of	7.7%	8.5%	16.2
		Residu	-	8.4	
Total			169	78	247
		Expected	169.	78.0	247.
		% of	68.4	31.6	100.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	9.669 ^b	1	.002	.003	.002
Continuity Correction ^a	8.548	1	.003		
Likelihood Ratio	9.087	1	.003	.005	.002
Fisher's Exact Test				.003	.002
N of Valid Cases	247				

a. Computed only for a 2x2 table

b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 12.63.

6.8.7 Where there is a human resource / personnel specialist

Given the uptake of HR policies and practices, as discussed in research question one, and that 55 percent of the sample have an HR or personnel specialist it may be possible to predict that there is no significant relationship between the uptake of HR policies and practices and the presence of a specialist. However, the cross tabulation and the associated chi-squared test, shows that a relationship exists in favour of the hypothesis at a moderate level of significance ($p > 0.05$). This relationship suggests that where an HR / personnel specialist is present within an organisation HR policies and practices are more likely to be introduced. It is also possible to suggest, from these results, that where a specialist is absent from a workplace HR practices are less likely to be introduced.

Table 6.11 HR and the presence of a personnel specialist (crosstabulation)

Crosstabulation: human resources and the presence of a personnel specialist

			personnel specialist		Total
			not present	present	
human resources	moderate / low	Count	103	113	216
		Expected Count	97.0	119.0	216.0
		% of Total	40.2%	44.1%	84.4%
		Residual	6.0	-6.0	
	high	Count	12	28	40
		Expected Count	18.0	22.0	40.0
		% of Total	4.7%	10.9%	15.6%
		Residual	-6.0	6.0	
Total	Count	115	141	256	
	Expected Count	115.0	141.0	256.0	
	% of Total	44.9%	55.1%	100.0%	

Chi-Square

	Valu	df	Asym Sig. (2-	Exact (2-	Exact (1-
Pearson Chi-Square ^a	4.26 ^b	1	.03	.05	.02
Continuity	3.58	1	.05		
Likelihood	4.40	1	.03	.04	.02
Fisher's Exact				.05	.02
N of Valid	25				

a. Computed only for a 2x2

b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 17.97

6.8.8 Where trade unions exist

Trade unions are recognised in 68% of the total sample. Table 6.11 shows that 68% of high HR workplaces have trade unions. The chi-squared result shows that there is no significant difference in the distribution of workplaces with trade unions, and incidence of HR practices (1.18)

Table 6.12 Distribution of workplaces by uptake of HR and trade union membership (% workplaces)

	Uptake of HR		
	High	Moderate	Low
Trade union membership	68	56	65

6.8.9 Summary

HR policies and practices are most likely to be introduced into a workplace when the following circumstances are met:

Table 6.13 Factors influential in the introduction of HR

	p.>
When the workplace is large (250 employees +)	0.001
Major customers influencing hr policies and practices	0.01
Advanced technology is used	0.05
There is a personnel / hr specialist	0.05

It is interesting and intuitively appealing to investigate whether or not there are any relationships between the variables that are related to the uptake of HR policies and practices.

Reviewing the relationship between workplace size and technology it is clear that where a workplace is large (250+ employees) it is going to have levels of high technological complexity. This relationship is represented by the Pearson chi-squared test result of $p > 0.05$. Similarly the relationship exists between smaller organisations and the adoption of low or moderate operating technologies.

Correlation 0.01 Spearman.

Table 6.14 Workplace size and operating technology (crosstabulation)**Crosstabulation: workplace size and technology**

			technology		Total
			low / moderate	high	
workplace size	0-249 employees	Count	142	49	191
		Expected Count	135.9	55.1	191.0
		% of Total	56.1%	19.4%	75.5%
		Residual	6.1	-6.1	
	250-500 employees	Count	38	24	62
		Expected Count	44.1	17.9	62.0
		% of Total	15.0%	9.5%	24.5%
		Residual	-6.1	6.1	
Total	Count		180	73	253
	Expected Count		180.0	73.0	253.0
	% of Total		71.1%	28.9%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.886	1	.049	.054	.037
Continuity Correction	3.276	1	.070		
Likelihood Ratio	3.747	1	.053	.075	.037
Fisher's Exact Test				.054	.037
N of Valid Cases	253				

Challenging whether large workplaces are more likely to operate with a personnel specialist than smaller workplaces, shows that there is a significant relationship. This is supported by the zero probability that the distribution of cases was by chance. A correlation on these variables shows that the relationship is significant at the $p > 0.01$ level (Spearman; one tailed test).

Table 6.15 Workplace size and personnel specialist (crosstabulation)

Crosstabulation: workplace size and hr / personnel specialist

			personnel specialist		Total
			not present	present	
workplace size (coded)	0-249 employees	Count	107	87	194
		Expected Count	87.1	106.9	194.0
		% of Total	41.8%	34.0%	75.8%
		Residual	19.9	-19.9	
	250-500 employees	Count	8	54	62
		Expected Count	27.9	34.1	62.0
		% of Total	3.1%	21.1%	24.2%
		Residual	-19.9	19.9	
Total	Count		115	141	256
	Expected Count		115.0	141.0	256.0
	% of Total		44.9%	55.1%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	33.900	1	.000	.000	.000	.000
Continuity Correction	32.214	1	.000			
Likelihood Ratio	37.687	1	.000	.000	.000	
Fisher's Exact Test				.000	.000	
N of Valid Cases	256					

The presence of a personnel / HR specialist in a workplace within the sample is positively related to the level of technology (Spearman correlation $p > 0.01$), with a chi-squared test of $p > 0.01$. This reflects the existing links between workplaces size and the variables of technology and personnel specialist. It is possible to conclude that a large workplace will operate with both high levels of technology and a personnel specialist.

Table 6.16 Operating technology and personnel specialist (crosstabulation)

Crosstabulation: level of technology and hr/personnel specialist

			personnel specialist		Total
			not present	present	
level of technology	low / moderate	Count	92	88	180
		Expected Count	81.1	98.9	180.0
		% of Total	36.4%	34.8%	71.1%
		Residual	10.9	-10.9	
	high	Count	22	51	73
		Expected Count	32.9	40.1	73.0
		% of Total	8.7%	20.2%	28.9%
		Residual	-10.9	10.9	
Total	Count	114	139	253	
	Expected Count	114.0	139.0	253.0	
	% of Total	45.1%	54.9%	100.0%	

Finally there exists a positive relationship between workplaces with a personnel specialist and with customers who have influenced HR policies and practices. With a Pearson chi-squared result of $p > 0.00$, and a correlation of (Spearman) $p > 0.01$, the

links are very clear. It is not possible, as with any of the chi-squared tests to predict the causality of the relationship.

Table 6.17 Customers influence on HR and personnel specialist

Crosstabulation: customers influencing HR and / personnel specialist

			personnel		Total
			not present	present	
customers influencing human resources	no	Count	89	80	169
		Expected	76.6	92.4	169.0
		% of	36.0%	32.4%	68.4%
		Residua	12.4	-12.4	
	yes	Count	23	55	78
		Expected	35.4	42.6	78.0
		% of	9.3%	22.3%	31.6%
		Residua	-12.4	12.4	
Total	Count	112	135	247	
	Expected	112.0	135.0	247.0	
	% of	45.3%	54.7%	100.0	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	11.566	1	.001	.001	.000
Continuity Correction	10.650	1	.001		
Likelihood Ratio	11.858	1	.001	.001	.000
Fisher's Exact Test				.001	.000
N of Valid Cases	247				

6.9 HR and performance – considering research question 4

Under what circumstances are human resource policies and practices successful in achieving business performance improvements through competitive advantage in engineering workplaces?

Following the analysis in answering research question two, the selection of cases for analysis was initially restricted to the 41 cases listed in the 'high' human resource management index.

The initial correlation calculated between the number of human resource management policies and practices (e.g. 5, 15, 17) and the performance index scores (e.g. 4.8, 6) found that there is strong link between the data sets (see research question two). Whilst there is a positive relationship between the two factors across the whole sample, when reviewing the sample of 'high' human resource management cases and their performance indices via a correlation the same result is not found.

For the 'high HR' cases, operating with 65% of the human resource management policies and practices, there is a negative correlation with the performance index. This finding means that within the scope of the small group designated as high in the human resource management stakes, the higher the number of practices the lower the performance index. The relationship has a Pearson correlation score of -0.369 and is significant at the $p > 0.05$ level. (non-para Spearman 0.5).

This is a surprising result and goes against the assumed wisdom of the literature. Given, however, that the performance index is made up of factors that required subjective judgements on behalf of the respondents and that in the reviewing the data later it is the high HR groups that are least satisfied with performance it may be that there is a bias in this group in favour of down-playing their performance. Interestingly the average performance index score is for these companies is 5.3 which is higher than the average score for the remaining sample (4.8), thus indicating that the High HR group has on average a higher performance score.

It is important to establish a group of cases where performance and human resource management policies and practices are high. This was achieved by reviewing the sample of cases with 14 or more human resource management policies and practices, and those cases operating with a performance index of 4.8 or more (i.e. above the average score for the sample). This left a high scoring group of 33 cases.

6.9.1 The work force is multi-skilled

In the questionnaire there is data available about the levels of skills that make up each individual case. This includes percentages of the work force that are unskilled, semi-skilled and skilled. Whilst this information is interesting, and is discussed in section one of this chapter, it is not able to provide any guidance as to whether employees are multi-skilled. This data is not, therefore, used in the analysis of the above proposition.

The data used to answer whether having a work force that is multi-skilled facilitates the achievement of business performance improvements is taken from question 23 'do employees move between tasks as part of their normal work pattern', and question 25 which addresses flexible job descriptions.

As Table 6.2 shows, 85% of respondents recorded that they operate with employees moving between jobs (recorded as 'job rotation'). It is expected, therefore, that in this sample this factor will not discriminate between groups of high and low performers.

Similarly, the use of no job descriptions or flexible job descriptions is claimed by 76% of the sample population, again providing little discrimination. For the purposes of the analysis, therefore, these two factors are combined to represent a 'multi-skilled' variable.

The multi-skilled index consists of two categories: high multi-skilling and low/moderate multi-skilling. The job rotation question presents data as high or low. Regarding the flexibility of job descriptions the scores for no job descriptions or flexible job descriptions were combined to make a flexible job description category.

These variables were then combined, scored and placed into two multi-skilled variables: high multi-skilling and low or moderate multi-skilling. The high multi-skilling category represents 64% of the sample.

The chi-squared test revealed that there was no significant differences between the distribution of cases into the high multi-skilling and 'high' human resource management index, and any of the other combinations (Pearson score of 0.38; $p > 0.1$).

The work of Osterman (1994) and Ingham (1970) proposed that links would exist, and therefore, this results does not support their arguments. This results reflects the high incidence of moderate levels of technology across all three HR groups (high, moderate and low), as explored in research question three. Such results reflect the impact that questionnaire design has on the ability to gather meaningful data sets. While the combination of variables such as flexible job descriptions and job rotation offer the opportunity to investigate the incidence of multi-skilling and HR practices, there can be little insight as to why and how links may, or may not, exist.

6.9.2 Additional question: presence of an HR / personnel specialist?

The up take of HR is affected by the presence of a personnel specialist as shown in research question two, however, the chi-squared test between high performing workplaces and all other workplaces in the sample there is no difference in the distribution of populations (Pearson chi-squared test 1.962; $p > 0.113$). Therefore, the presence of a personnel / HR specialist is not a determining factor in the improvement of business performance.

6.9.3 The business strategy gives priority to product / operational differentiation

Respondents were asked to report on the features of products or services that are most crucial for competitive success in the market in which they are operating (qu. 48). Six answers were provided and included: price, quality, responsiveness to customer demands, advertising/marketing, providing a distinctive product or service, and delivery time / availability.

The most popular answer was quality at 70% of the sample and the second was price with 63% of the sample. There is a significant negative correlation between these variables (Spearman test -0.141 ; $p > 0.05$), suggesting that either price or quality is selected as the primary variable in answering the question. Providing a distinctive product or service, the variable used in this question was selected by only ten percent of the sample ($n=25$). Given such a low response rate it is possible to predict there will be no significant relationship between this variable and the high performing, human resource management workplaces.

The results of the crosstabulation and the chi-squared test are displayed in Table 6.18. They show that the differences in the distribution of workplaces by the variable of distinctive products or service is significant at the $p > 0.05$ level (Spearman non-parametric test 4.438). Given that one cell has an expected value of less than 5 the Fisher's exact test is calculated and provides the same result.

Table 6.18 Workplaces with high performance and HR and a distinctive service/product (crosstabulation)

Crosstabulation: HR and the provision of a distinctive service

		distinctive product service		Total
		no	yes	
HR / performance	low			
	Coun	193	16	209
	Expected	189.8	19.2	209.0
	% of	80.4%	6.7%	87.1%
	Residua	3.2	-3.2	
	high			
	Coun	25	6	31
	Expected	28.2	2.8	31.0
Total	% of	10.4%	2.5%	12.9%
	Residua	-3.2	3.2	
	Coun	218	22	240
	Expected	218.0	22.0	240.0
	% of	90.8%	9.2%	100.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4.438 ^b	1	.035	.047	.047
Continuity Correction ^a	3.144	1	.076		
Likelihood Ratio	3.624	1	.057	.088	.047
Fisher's Exact Test				.047	.047
N of Valid Cases	240				

a. Computed only for a 2x2 table

b. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 2.84.

This results shows that where a workplace is providing a distinctive product or service and this is crucial to the competitive success of the business, a workplace will operate with a high number of human resource management policies and practices and will have high levels of performance. This supports the work of Youndt et al.(1996), and provides some suggestion that the workplaces appear to be linking products with HR.

6.9.4 The business strategy emphasises quality improvements

There are two variables that are used to construct a quality improvement variable. As with the previous questions on strategy, no direct questions were asked about the business strategy. Other factors were used and included: are employees responsible for quality (qu.21), and whether quality is a crucial factor in the success of the business (qu.48). Whilst these factors do not challenge the issue of whether quality improvements are strategic, the questions assume some planned action on behalf of the workplaces. There are many other factors that could be included in the development of a quality variable, including aspects of problem-solving process such as quality circles and suggestion schemes, however, the incidence of these practices does not ensure quality improvements.

In order to establish a quality variable the responses from questions 21 and 48 were combined to provide three types of workplaces: low (score 0), moderate (score 1) and high (score 2). The low and moderate workplaces were then combined to provide one category.

The cross tabulation showed that there was a positive distribution of cases, with more cases presenting in the categories of 'high' human resource management /performance workplaces and high quality than expected. This result suggests that the high performing human resource management cases are more likely to operate with the quality contrast than the low/moderate performing workplaces. This result is not, however, significant (Pearson chi-squared test 1.787; $p > 0.126$).

This test was repeated to include qu. 44 where workplaces indicated that customer have influenced their quality practices. A score of three was perceived as high quality, where there was a average score of two across the sample. Again the chi-squared test was not significant (Pearson 2.513).

6.9.5 Additional question: emphasis on flexible approaches (flexibility index)

MacDuffie discusses the role of buffers and lean and flexible working within companies and the positive impact that this has on performance. Similarly the issue of flexibility is raised by Youndt et al. (1996), Osterman (1994) and Ichniowski (1992).

Within the questionnaire there are a number of variables that provide some indication as to the flexibility of the workplace. These include:

- Qu. 23 job rotation enabling employees to move between tasks in response to customer demands
- Qu. 48 responsiveness to customer demands for competitive success.
- Qu. 53 it is / is not easy to respond rapidly to market demand through flexible employment practices.

Qu.53 provides a three point Likert scale which was then recoded with the 'disagree' and 'neither agree/disagree' collapsed into one category (score = 0), and an agree category (score = 1). This provides equally weighted data with the other two variables.

The high flexibility category was then coded based on a score of 2 or more per case. This represents a higher than average score ($=1.8$) for the sample population. The crosstabulation showed a positive relationship between the sample of 'high' human resource management / high performing cases and the flexibility index. Within the chi-squared test the Pearson value was 5.064; $p > 0.025$.

Table 6.19 Workplaces with high HR and performance and flexibility

Crosstabulation: high HR and performance workplaces and flexibility

		Flexibility		Total
		low	moderat /high	
low/moderate HR / performance	Coun	75	135	210
	Expected	69.4	140.6	210.0
	% of	31.0%	55.8%	86.8%
	Residua	5.6	-5.6	
high	Coun	5	27	32
	Expected	10.6	21.4	32.0
	% of	2.1%	11.2%	13.2%
	Residua	-5.6	5.6	
Total	Coun	80	162	242
	Expected	80.0	162.0	242.0
	% of	33.1%	66.9%	100.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	5.064 ^b	1	.024	.026	.017
Continuity Correction ^a	4.197	1	.040		
N of Valid Cases	242				

a. Computed only for a 2x2 table

b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 10.58.

This result shows that high performing workplaces operating with human resource management policies and practices are more likely to operate with flexible practices including job rotation, and a responsiveness to customer demands. Surprisingly there is no correlation between questions 23,48 or 53 using a Spearman test.

6.10 Summarizing the incidence, introduction and performance of HR

The results from the questionnaire data show an interesting amalgamation of information that both supports and contradicts some of the existing perceived wisdom within the field.

The data set from the administered questionnaire reflects closely many of the characteristics of the WERS data. This being so, it is possible to suggest that the sample of data used in this study is not unusual in its characteristics, albeit that the sample cannot be described as representative.

It is clear that a large proportion of the sample, of 256 workplaces, claim to operate a high number of HR practices. It has been possible to categorise the data into three groups of high, moderate and low HR practices. This has facilitated a closer look at the characteristics of those workplaces claiming high numbers of practices. This information goes some way to challenge the existing theories on the environments in which HR practices are likely to be introduced.

What the data shows is that companies with high levels of HR are not satisfied with their performance, which contradicts the assumptions of the implicit theory raised by Wright and Gardner (2000). This is set against a work force that is committed, has improved the quality of work of the work produced, and is flexible to changes in market demands. This work force is also stable with low turnover and absence. As such there is average scrap and good on-time-delivery.

Addressing the wider issues of those influencing factors such as size, status and technology and the uptake of HR practices, data enables a number of interesting conclusions. Firstly, there is evidence that supports the proposition that HR is more prevalent in large workplaces (Arthur, 1992; Ingham, 1970; Osterman, 1994). This debate considers the availability of resources that are more readily available within the large workplace. A similar discussion, on resources, is found with the proposition that organisations that are part of a wider organisation are more likely to have access to resources enabling HR activities, such as training, to readily occur. This data has not supported this.

Osterman (1994) and Appelbaum et al., (2000) propose that HR policies and practices are more likely to occur in organisations where advanced technology is used. Supporting this the data from the questionnaire finds a link between high technology and the incidence of HR practices. This proposition rests on the assumption that multi-skilled, and trained employees are needed in this environment, however, the evidence from this research data does not find a link between HR and multi-skilling. Should the relationship between HR, technology and multi-skilling be causal in nature the questionnaire data and analysis is not adequate to pick out such linkages.

Finally, the interactions between customers and workplaces have been discussed by a variety of authors (Kinnie et al., 1999; Lee and Billington, 1995; Beaumont et al., 1996; Lane and Bachmann, 1996). Suggestions lie with the belief that where workplaces are responsive to the needs of the customer, this responsiveness extends to the HR practices adopted. Indeed this research shows that links exist between workplaces that have high numbers of HR practices and those whose customers are interested in HR. This link does not continue to those customers who are interested in quality. The complexity of the relationship between the customer and the workplace and how HR practices are influenced cannot be effectively dealt with in the questionnaire, and such links and processes require alternative sources of data to be able to consider these issues more fully. What the questionnaire does provide is evidence that shows that workplaces, whose customers are interested in HR, have an HR specialist. This is an interesting result for although it is not possible to predict the direction of the relationship, it seems reasonable to suggest that workplaces may employ an HR specialist to implement and manage the customer influenced HR practices.

What these conclusions show is that the presence and role of HR within an workplace is complex by nature of the relationships that surround it. The relationship between technology and HR is complex, addressing issues of high skill, multi-skilling, quality and differentiation. Just as the questionnaire is very useful in the identification of these relationships aspects of causality cannot be considered

here, and require further investigation. The next section seeks to identify some of the changes that the high, moderate and low HR companies have been experiencing in the last three years, in order to explore potentially influencing factors in the adoption of HR practices.

6.11 What was happening in engineering workplaces in 1998?

Setting the context against which the uptake of human resource management policies and practices are found, the following Figure 6.5 presents the significant changes that the populations said they experienced during 1997 – 98 (91%).

Figure 6.5 Workplace changes in the past three years in high, moderate and low HR workplaces

Nature of the changes	Average	High	Moderate	Low
	Percentage (N=256)			
Introduction of new plant machinery / equipment	66	63	68	53
The introduction of new working practices	61	83	59	35
Major investments	53	53	55	35
New Managing Director	52	45	54	41
Launch of a new product	44	48	46	18
Changes in the level of technology	39	50	40	6
Redundancies	38	28	40	35
Increased accountability to business units	36	50	34	24
Change in ownership	27	30	27	24

Having been offered the opportunity to highlight a number of changes there are significant relationships⁴ occurring between these factors, helping to explain the climate in which firms are operating. As Purcell comments 'Although we have no clear studies in this area it would seem that the introduction of HR is most likely to take place after the corporation has engaged in major restructuring involving job losses and a redefinition of its activities' (1997; p.9).

The introduction of a new Managing Director is closely associated with redundancies**, and with the increased accountability to business units**. New investments are directly matched to the introduction changes in the levels of technology* and the introduction of plant machinery*, suggesting that major investments are focusing on changing technologies via new machines. The introduction of new plant machinery is also closely associated with new products**, which in turn are associated with new technologies*** and new working practices.

In the sample there has been a significant amount of investment for the purchasing of new machinery / technologies, which require new working practices, in order to produce new products. This hints at growth and greater competition within the sample population. It is the new working practices that shall be explored here.

Such changes within engineering may be explained by some of the mergers and acquisitions reported in the questionnaire, identified by respondents in an open question.

6.11.1 High and Low HR companies

Figure 6.5 shows that the changes that have been occurring within the sample population are different between the high, moderate and low HR groups. The changes experienced by the moderate HR group, are represented by the overall

⁴ Significant relationships (cross tabs) using Spearmans

* correlation at the 0.000 level

** correlation at the 0.001 level

***0.005

**** 0.05

sample results. However, there are some distinguishing change factors between the high and low groups.

Most clearly the high HR workplaces have, in the past three years, introduced new working practices (83%), which is directly related to changes in the levels of technology ****. This evidence supports the argument favouring a group of workplaces operating a comprehensive approach to manufacturing systems and HR management.

Other key change activities include the increased accountability to business units, which is related to the presence of a new MD ****. Increased accountability to business units is also related to changes in ownership, suggesting that where new direction is sought this has been devolved to the level of the business unit, a process that is facilitated through the introduction of a new key figure in the company.

The type of changes within low HR workplaces is quite different. Most notably, and consistent with the low incident of HR policies and practices, is the relatively low introduction of new working practices. Associated with this lack of change are the very low changes in the levels of technology (6% of the sample), suggesting that there may be a lack of investment for change.

The low HR workplaces exhibit an overall lack of change in the past three years, with the majority of the sample having experienced the introduction of new plant machinery, a new MD and staff redundancies. Such lack of change, in terms of investments, technologies and products may help to explain why this group has experienced little improvement in terms of the quality of work or scrap rates, but remains 'satisfied' with the performance. Equally, however, the opposite may be true, where complacency in terms of performance has led to inertia around investing and changing the current work systems.

Where there have been changes in the working practices within engineering workplaces it is clear that there has been a focus on quality with 80 % of the sample stating that their customers have influenced their quality practices. Approximately

50 workplaces reported that they have introduced ISO 9000, and about 24 workplaces have introduced ISO 9001 due to the relationship with their customers. These methods of quality assurance are closely associated with HR changes and so it is interesting that only 30% of workplaces reported that customers had influenced HR practices. Approximately 46 companies reported increased training due to customers needs with improved customer service featuring too.

6.12 Combining HR practices for competitive advantage – considering research question 5

This section seeks to review the questionnaire data in the light of the second and fifth research questions. Initially research question five will be considered, that addresses the idea that HR policies and practices may appear in unique combinations, thus accepting the Configurational approach to the adoption of HR.

Secondly, research question two will be considered in more detail through the analysis of the performance index. Attempts to tie the two sets of information together will be made in order to establish any performance – bundle link.

Research question 5: Do human resource policies and practices appear in combinations in engineering workplaces?

Research question 2: What is the contribution that human resource policies and practices make to business performance through competitive advantage in engineering workplaces?

The data for this section is drawn from 241 cases, out of the original 256, equalling 24% of the complete sample population. Cases were excluded that did not provide a complete performance data set, thus reducing the accuracy of the performance index.

The performance and human resource management indices were used in answering this research question (the development of the indices was discussed earlier). This enabled a clustering process to be adopted that would seek to identify relatively

homogeneous groups of cases based on selected characteristics (human resource management and performance).

6.12.1 Cluster analysis

Data analysis

The clustering procedure attempts to identify relatively homogeneous groups of cases (workplaces in this study) based on selected characteristics. This process makes no distinction between the independent and dependent variables; it is the independence of the variables that is under consideration. The variables that are inputted can then be used to predict the relationships of workplaces to one another based on similarities. In doing this, the process reduces the number of workplaces into smaller groups or 'clusters'.

The development of the HR index relies upon raw and transformed data to produce a data set for the sample that is interval in nature. Similarly the performance index provides interval data for the sample population.

The use of the HR and performance indices seeks to plot the workplaces by the variables thus addressing the idea of HR bundles, but also whether the incidence of HR policies and practices is linked to performance. For whilst this question was tentatively addressed within previous chapters, it is hoped that clustering will provide further insights into the role and impact of HR (Ichniowski et al, 1996).

In grouping the workplaces together, the clustering process relies upon measuring the similarities or differences between cases. It is common to measure the similarities between pairs of cases, with cases that have smaller distances between them being more similar to one another than cases where there are larger differences between them (Aldenderfer and Blashfield, 1984). Distances between each case are computed using simple Euclidean distance during the K-means technique. This is one of the most common measures for identifying similarities between cases, and is used when interval data is available. This process attempts to identify relatively homogeneous groups of cases based on selected characteristics e.g. HR and

performance indices. This is achieved by using an algorithm that has the capacity to handle large numbers of cases.

The scaling of the data was given careful consideration in this research. The HR index was scored out of 21 variables, with a maximum case score of 16 and a minimum case score of 3. The performance index was scored out of 7, with a maximum case score of 7, and a minimum score of 1. This presents a large difference in the scaling of data. To avoid this affecting the cluster solutions the data was weighted by a factor of 3, proving a performance index of 21.

While the previous data analysis has focused on the high, moderate and low incidence of HR policies and practices, this analysis addresses two indices. It is difficult to predict the relevant number of clusters at this stage. Seeking three clusters has the potential to repeat the existing work conducted on the HR index. Therefore, more than three clusters will be sought. Instinctively plotting high, moderate and low HR against performance may produce either six clusters (high and low performance), or nine clusters (high, moderate and low performance).

The K-means cluster procedure was conducted on the data. Cluster membership of four, five and six were tried. The outcome of the six-cluster approach provides interesting data sets, and establishes an acceptable number of cases in each cluster presented in Table 6.19.

Table 6.20 Cluster membership and population size

		Cluster					
	Sample population	1	2	3	4	5	6
Cluster membership (n=)	241	35	52	71	35	32	16
% of population		15	21	29	15	13	7

Companies in clusters 1, 4 and 5 are representative of a sixth of the population. Clusters 2 and 3 are above average size, while cluster 6 is less than half the size of an average cluster. While differences in sample sizes exist in this data, they do not present any particular bias in the data – perhaps with the exception of cluster 6.

Given the initial review of the sample and the overall high incidence of HR policies and practices across all workplaces, it is not surprising that this cluster, representing a low HR uptake is smaller than the remainder of the population.

The following Figure (6.6) displays the clusters of workplaces, by the HR and performance indices, diagrammatically. From this chart it is possible to distinguish two layers of clusters initially divided by the performance index, running horizontally across the chart. The second distinctions involve the groupings of HR policies and practices into high, moderate and low. What is also clear is that there are two quite distinct clusters one presenting as a high HR and high performance cluster (cluster 1), and a low HR moderate performance (cluster 6).

The following sections will address each cluster, comparing where appropriate differences between clusters lying with the same HR banded scores but on differing performance scores.

Figure 6.6 Distribution of workplaces by HR and performance indices



6.13 Engineering workplaces and HR characteristics

Each of the clusters presents an interesting uptake of HR policies and practices that are laid out in Figure 6.7. This figure shows the overall HR index and performance index scores for the complete sample (n=241), and the scores for each of the clusters. The figure also presents the percentage of workplaces in each clustering claiming to adopt the individual HR policy or practice. The information is presented with the most frequently adopted HR policy or practice, for the complete sample, listed first.

Figure 6.7 Human resource management policies and practices by cluster population

	Average score	Cluster membership					
		1	2	3	4	5	6
HR Index	10	15	12	9	11	8	5
Employees responsible for quality	89	97	94	92	97	84	69
Job rotation	80	94	90	82	89	78	44
Flexible or no job descriptions used	75	80	83	69	71	69	78
Team briefing	74	100	90	76	89	63	25
Team work	72	94	90	76	97	66	6
Jobs designed to use skills and knowledge	57	66	60	56	64	53	44
QUALITY CIRCLE	56	91	69	41	77	50	6
2 – 10 days training for the majority *	53	77	73	54	55	45	12
Employee sets performance targets	52	83	67	48	63	31	19
Trainability for selection	51	77	62	46	63	38	19
Yearly appraisal	51	71	71	49	63	31	19
Feedback on production goals	45	80	60	37	60	25	6
Shopfloor on the-job training(20+ hours)	42	80	50	31	43	34	13
1> day training for the majority *	41	9	22	42	39	48	88
Staff on the-job training(20+ hours)	40	80	44	32	43	28	13
Psychological tests	28	60	40	20	23	13	13
Suggestion schemes	28	51	44	15	34	22	0
Attitude surveys	26	71	29	17	37	3	0
Staff induction (20+ hours)	8	11	12	8	9	0	6
Staff off-the-job training (20+ hours)	7	26	6	6	0	6	0
11 + days of training for the majority *	6	14	6	3	6	7	0
Shopfloor induction (20+ hours)	5	14	6	3	6	0	0
Shopfloor off-the-job training(20+ hours)	4	17	4	0	0	3	0
Performance score (weighted)	14	17	17	17	10	10	12

* indicates a share of 100% for each cluster

The first three clusters under discussion (cluster 1, 2 and 3) have presented varying commitments to the adoption of HR policies and practices, however, all three clusters display significantly higher levels of performance. The following clusters will be described in terms of their HR policies and practices. These clusters will then be referred to when the lower performing clusters are discussed (cluster 4, 5 and 6).

6.13.1. Cluster 1

This group of thirty –five cases, consistently exhibits higher levels of HR policies and practices than any other group of cases. With an average score of 15 policies and practices across this group, the workplaces here are clearly engaging in a significant number of HR activities.

The selection of employees to work within these workplaces relies heavily on psychological tests (60%) and trainability (77%). These activities occur far more often within this group than in any other group within the sample. Extensive training within these workplaces is expected to support those employees selected due to their trainability, or potential to learn new skills.

Interesting characteristics of this group include the high use of team working, quality circles and employees having the responsibility for setting performance targets and having control over the quality of the products. Such activities reflect the devolution of authority to make decisions, to the shopfloor, with management encouraging the participation and involvement in employees, using their ideas and knowledge to improve existing processes and production activities. Training supports such activities.

Fourteen percent of this group provide eleven or more days training for all employees within their workplaces, which is more than double the frequency than the average workplace. For the remainder of the sample the majority of staff receive between 2 and 10 days training (77%). These figures present favourably in the sample, and are further supported by the more detailed information on the training provided for new core employees: both staff and shopfloor. When employees begin at a workplace, in this

cluster, they are likely to engage in induction training, with between 11 and 14 percent of the new starters having more than 20 hours of induction training. This is, on the whole, considerably more training than the rest of the sample.

Once in the workplace, eighty percent of shopfloor employees and staff will enjoy twenty or more hours of on-the-job training. This places them significantly ahead of employees not working within the workplaces in this cluster. As a commitment to developing all employees further, off-the-job training is also engaged in with staff receiving more of this training than shopfloor employees. Whilst only 17 to 26 percent of employees are likely to received more than 20 hours of off-the-job training, this is a significant commitment in comparison to the complete sample.

The communications processes that this group of workplaces engage in are prolific. Team briefings, yearly appraisal and feedback on production goals are very common within this environment, with suggestion schemes and attitude surveys in place for at least half of the employees.

In particular the use of attitude surveys is uncommonly high, with this group seeking the view of employees far in excess of any other group in the sample.

Cluster 1 appears, therefore, as a set of workplaces that seek to employ staff who can be developed, they commit their financial resources to training employees and then utilise the new skills and knowledge through heightened employee participation. Formal communication processes are numerous, offering employees the chance to present ideas.

6.13.2 Cluster 2

This group of workplaces (n= 52), operates with an average of 12 HR policies and practices, and has a performance score of 17. Typically this group operates with higher levels of HR policies and practices than the average workplace, however, with less frequency of activity than cluster 1.

The clearest difference in groups one and two is the commitment to training. While the majority of employees receive 2 or more days training (79%), the commitment to off-the-job training and shopfloor induction training is no different to the average company.

Other areas where there is significantly less commitment to HR policies and practices than in cluster 1, includes:

- the use of quality circles and employees setting the performance targets,
- psychological tests, trainability for selection,
- feedback on production goals, attitude surveys and
- staff on the-job training.

While these areas are lower in frequency than in cluster 1, cluster 2 remains more committed to HR than the average workplace. Therefore, although this list presents a number of areas that are identified as being critical to the bundle e.g. careful recruitment and selection, cluster 2 engages in all areas of the bundle successfully with some degree of reservation over training.

By reviewing the contextual factors of this group later, a more thorough understanding of the relationship between HR – performance and competitive advantage will sought.

6.13.3 Cluster 3

With an average of nine policies and practices, this cluster is lower in terms of the level of HR than the average workplace. This group of workplaces operates with team working and team briefings, there is job rotation for employees and they have the responsibility for quality. The majority of these employees gain from 2-10 days training a year, and eight percent of staff within the workplace will receive induction training of 20 or more hours.

What employees, in this group, miss out on includes: suggestions schemes, attitude surveys, and any significant amount of training, in particular off-the-job training,

The impact that this reduced commitment to HR has on cluster 3 is not exhibited through performance where the average score for this cluster is 17, raising the question as to whether high levels of HR are necessary to achieve acceptable performance.

The second trio of clusters to be reviewed present an interesting mix of performance and HR actors. They are unlike the previous three clusters where there were varying levels of HR but with similar performance scores. In this trio there are two clusters with the same performance scores and one cluster with dramatically different characteristics. Discussions will be provided on the differences between clusters similar in numbers of HR policies and practices but differences in performance. This discussion will be followed through in a review of the characteristics of the clusters.

6.13.4 Cluster 4

This cluster shows many of the characteristics of cluster 1 and 2, where there are significant levels of HR in activities such as team working, team briefings, job rotation, and employee responsible for quality.

Comparing this cluster with cluster 2 – which sits on the same in a similar HR sphere on the cluster chart – there are a selection of interesting differences that may highlight why there is such a divergence in performance. These differences include the prolific use of quality circles, and attitude surveys. These activities seek to address and capture the contributions and views of employees. Unfortunately significant levels of training for staff and shopfloor employees, or suggestion schemes do not support the quality circle process. Although cluster 4 operates these activities more frequently than the average company.

6.13.5 Cluster 5

It is interesting that similar to clusters 1,2 and 3, clusters 4 and 5 operate with differing levels of HR, but achieves similar performance scores.

In cluster 5, it is expected that the frequency of policies and practices will be lower than all previously mentioned groups as this cluster operates with an average of 8 policies and practices, in comparison to an overall average of 10. As such the frequency of all HR policies and practices is lower in this cluster.

In comparing cluster 5 with cluster 3, (both with similar levels of HR), cluster 5 is characterised by high levels of quality circles, suggestion schemes and a higher percentage of workplaces offering more than 11 days training per year for employees. Similarly the amount of off-the-job training available to staff and shopfloor employees is comparable to the average. However, 93% of workplaces in this cluster offer between 1 and 10 days training for the majority of employees suggesting that there is a small contingent within this cluster that are committed to training, but that this does not reflect the complete sample.

The adoption of quality circles for performance improvements may be hindered through the lack of training available to support the process. Factors including a lack of feedback on the production goals of the workplace, and that employees are not given the opportunity to set performance targets, may reduce the impact of quality circles due to a lack of autonomy.

6.13.6 Cluster 6

The final cluster presented in this sample is perhaps the most interesting. Operating with an average of only 6 policies and practices, this group succeeds in presenting higher performance scores than cluster 4 and 5. Although Wood and Albanese (1995, p.216) state, 'the control and compliance model...is inappropriate for the modern world' it appears that 'organizations which do fit their policies to their contexts will out perform those which do not' (p.219).

There are clear policies and practices that this group adopts. These include the use of flexible, or no, job descriptions, job rotation, employees having the responsibility for quality, jobs that are designed to use skills and knowledge of the employees.

The first two practices imply that workplaces are ensuring the employees are able to move between jobs due to a lack of job descriptions. Considering this against the overall lack of training available, it may be possible to presume that the work involved in these workplaces requires little specialist knowledge or skill. Where there is little specialist knowledge required it makes the task of designing jobs to use any knowledge or skill quite straightforward. Furthermore these workplaces do not give much attention to the selection of staff. Given this backdrop it is interesting to note that 69% of workplaces in this sample suggest that employees are responsible for quality. This will be further investigated in the following sections.

Team working and team briefings feature in only a small percentage of the group, particularly in contrast to the other five clusters. The low use of team briefings reflects an overall lack of communication within the cluster where suggestions schemes, attitude surveys do not occur at all.

With this information it is difficult to suggest that this company is a HR company, and perhaps reflects the mass production, control-orientated environment as described by Arthur (1992).

6.13.7 Summary

In comparing cluster 1 with the other clusters within the research, there are a number of practices that are clearly linked to this cluster. These include:

Careful recruitment and selection

Trainability for selection

Psychological tests

Communications

Feedback on production goals

Suggestion schemes

Attitude surveys

Training for all employees

Induction training

Off the job training

On the job training

Employee involvement

Quality circles

Employees set performance targets

These activities go beyond the production processes of team working and job rotation.

Extensive levels of training and communications with staff ensure that their involvement has the potential to add value. Consideration as to their nature of this value through elements of performance will be reviewed next.

6.14 Engineering workplaces and performance characteristics

The HR profiles of each of the clusters revealed that each cluster exhibits varying levels of HR and performance. This section seeks to investigate the clusters by their performance index and characteristics, with a view to theorizing about the relationships between the factors. These theories will then be investigated through the cases.

The following Figure 6.8 shows the self-reported answers, by the respondent, to questions regarding aspects of personnel and operational performance, cluster workplace size and various other aspects of the characteristics. The age of the typical workplace within each workplace will not be discussed as the incidence of workplaces of ten years or more is above 75% in each cluster.

Figure 6.8 Performance measures by cluster

Question 53	strongly agree/ agree	Cluster					
		1	2	3	4	5	6
The level of employee commitment to the company is high	72	91	85	75	46	63	69
Worker hours lost to scrap are low	55	69	77	76	34	28	44
It is easy to respond rapidly to market demand through flexible employment practices	60	77	81	72	49	28	50
The quality of work by employees is better than a year ago	55	74	69	68	49	41	31
The company is satisfied with the levels of performance	55	51	69	58	31	59	63
Average number of HR practices	10	15	12	9	11	8	5
Average performance index score	14	17	17	17	10	10	12

6.14.1 High performers and HR

Comparing clusters 1,2 and 3 which all operate with the same performance score of 17 it is clear that employee commitment and the quality of work by employees is highest where the highest number of HR policies and practices are adopted (cluster1).

While cluster 1 operates with high employee commitment, quality of work, below average absence and above average delivery performance the companies are not

satisfied with the scrap levels or flexibility even though these scores are well in excess of the average. This suggests that cluster 1 operates under expectations of high performance and is continually striving for improvements, suggesting that this cluster will change and develop over time.

The workplaces within this cluster are, on the whole larger with between 200-500 employees, supporting the argument that larger workplaces have the resources to introduce and develop HR activities (Arthur 1992, Ingham, 1970 and Osterman, 1994)

The majority of this group operates with levels of high technology (50%), or moderate technology (47%).

In cluster 1, 77% of workplaces operate with trade unions, 63% with personnel specialists, and HR is discussed at board level in 94% of the sample.

Cluster 2, like cluster 1, benefits from high employee commitment, flexibility and low scrap rates. The absence and delivery performance is also better than average and the majority of this group is relatively happy about the levels of performance (69%).

In terms of the more hard measures including worker hours lost to scrap. Workplace flexibility is also high coinciding with the slightly elevated use of flexible or no job descriptions by this group.

This group is mainly made up of workplaces with between 100 and 199 employees, and operates with moderate levels of technology.

Cluster 3 is the least satisfied with performance overall, but operates with very similar levels of performance in comparison to cluster 2. Cluster 3, while operating with lower than average HR policies and practices is a high performer. There is better than average absence and delivery, and good levels of quality, and low scrap. Cluster 3 appears to have balanced the software elements of the organisation (people and HR) against the hardware (technology). This cluster is a mix of high (34%) and moderate (50%) technologies with only 44% of workplaces operating with a personnel specialist.

6.14.2 Moderate / low performers and HR

Cluster 4, 5 and 6 present a different picture of HR and performance. Within this group of three clusters, *all* of the performance scores are *below* the average performance scores with the following exceptions: cluster 4 and 5 are satisfied with the overall performance of their workplaces.

Cluster 4 is very interesting. Operating with eleven practices, performance is weak with high levels of absence, high scrap and only moderate delivery performance. This group of workplaces is very dissatisfied with these levels of performance, with only 31% of the group believing that their performance is acceptable. Significant changes are occurring in this cluster, and employee commitment is the lowest in the group.

This cluster has almost split evenly with companies of 100-199, and 200-500 employees. The technology levels are, on the whole, moderate.

Cluster 5 is satisfied with very poor levels of delivery performance, high absence and scrap rates and a lack of flexibility. Operating with 8 HR policies and practices this group appears to be content with a static position in the market. Approximately 40% of the cluster is taken up with workplaces of between 200-500 employees. Again moderate technology is dominant. This cluster relies heavily (88% of the sample) on price as a factor in making their products competitive (question 48).

Finally cluster 6 has an average of five HR policies and practices, performs at a moderate level and is more than happy with this. This group has moderate levels of employee commitment, and the absence rate is moderate to high. Hours lost to scrap is a cost to the workplace and the quality of the work is low. They operate with a moderate level of flexibility reflected in the absence of set job descriptions. This is not a human resource workplace in the sense of investment. However, this cluster appears to have become established operating quite successfully.

It is clear from this section that performance and HR does not operate a linear relationship, with groups of workplaces, such as cluster 6 highlighting that low levels of

HR may not inhibit the achievement of moderate performance. It has also been shown that there appears to be no difference in the performance index measures of workplaces operating with an average of between 9 to 15 policies and practices.

Accepting the vulnerabilities of self-reported questionnaire results, the information here presents an interesting assessment of the relationship between HR and performance.

While the performance index is useful in understanding some of the outcomes of HR adoption the following sections provide a brief review of the state of each of the clusters in terms of the market share, and context.

6.15 Manufacturing workplaces their market share and performance

The self-reported results on the size of market share, relative to the workplaces' competitors, have produced some interesting results. What is clear, from Figure 6.9 is that each of the clusters operates a major share of the UK market, with the exception of cluster 6. Cluster six does not operate a major share of either the UK or world market. Although satisfied with their performance, workplaces in cluster 6 do not appear to be dominant in either of their product markets.

Figure 6.9 Cluster and market share

cluster	UK market share			World market share		
	Major	Moderate	Minor	Major	Moderate	Minor
1	45	42	12	14	29	57
2	38	52	10	22	15	63
3	57	37	6	18	21	61
4	55	39	6	12	46	42
5	35	58	7	8	25	67
6	8	38	54	0	22	78

This perhaps reflects different performance objectives for those workplaces in cluster 6 than in the other five clusters.

6.16 Absence and delivery performance

The impact of the adoption of HR practices on absence and delivery performance is seen in the following Figure 6.10. This shows that cluster one is clearly performing better on both counts than any other cluster of workplaces. Lower absence in cluster one is consistent with the higher levels of commitment, and the good delivery performance a reflection of the flexible approach and higher quality of work.

Clusters four and five operate with poor levels of absence and delivery performance. For cluster four this is consistent with the significant changes occurring that are discussed within the following paragraphs, and the lack of satisfaction expressed in the previous figure.

Interestingly cluster six has relatively moderate levels of absence.

Figure 6.10 Absence and delivery performance by cluster

Percentage of workplaces with better		Cluster					
than average scores		1	2	3	4	5	6
Absence (less than 4.5%)	61	80	73	75	21	34	56
Delivery performance (higher than 85%)	61	80	73	75	47	22	25

This data shows that there are consistencies between the various performance data sets for each of the clusters. This information shows that cluster one is reporting the highest performance levels across the data.

6.17 The role of the customer

The following paragraphs seek to review the clusters in the light of contextual factors within the questionnaire. These factors include the role and impact of the customer, and the nature of the changes occurring in the past three years.

The analysis will seek to understand further the nature of the incidence of HR policies and practices and the links to performance within a wider framework.

Figure 6.11 shows that, for cluster 1, the influence of the customer has extended to both human resource and quality issues. When comparing the HR influence to clusters 3, 5 and 6 all of which adopt only a small number of policies and practices (9,8 and 5 respectively), it is possible to suggest that the adoption of policies and practices has origins with the customers influences.

Figure 6.11 Customer influences by cluster

cluster	Customer influence (HR)	Customer influence (Quality)
1	54	89
2	35	81
3	20	80
4	34	77
5	22	72
6	13	69

6.18 The nature of changes for engineering workplaces

This section addresses the reported changes in each of the clusters that have been occurring in the past three years. In doing so it is anticipated that further understanding of what has influenced HR within engineering will be established. In order to do this

data is taken from the questionnaire and each cluster is compared with the average scores of the complete sample (n=241) (see Figure 6.12).

For companies in cluster 1, the high HR group, the most significant changes that have occurred include the introduction of new working practices (91%). This is consistent with the high incidence of activities such as team working, job rotation and quality circles. The other most significant feature is the change in the level of technology. It may be proposed that changes in the levels of technology have been supported by the adoption of new working practices. Such changes for the companies in cluster 1 may be related to the increased accountability to business units that has occurred for 48% of the sample.

Changes such as redundancies and the introduction of a new MD are not particularly common to this group.

Cluster 2 does not appear to have experienced any significant changes in the past three years with the exception of technological changes and business units accepting greater accountability. These changes are similar to cluster 1. For cluster 3 there are similar levels of change to cluster 2, but the nature of the changes are different with new MD's, redundancies and new products being the focus.

Clusters 4 and 5 have experienced major changes in the workplaces in the past three years, explaining, perhaps, why the high incident of HR and low performance are characteristic.

For workplaces in cluster 4 there have been new MD's, and products perhaps associated with changes in ownership. Also there has been new plant machinery probably from the major investments that have been occurring. Within this somewhat turbulent environment it may be possible to suggest that the companies have not had the opportunity to consolidate the changes and benefit from the HR policies and practices. This group is interesting in the lack of redundancies - given the nature of the other changes - and few technological change.

For cluster 5 the nature of the changes occurring are similar to cluster 4, but to a lesser extent. The changes focus around a change in ownership, new MD's and major investment.

The final cluster is interesting due to the lack of changes that have been occurring. This group of workplaces is most static and the levels of change are well below the average for the sample. Most notably there is a lack of change in the level of technology.

It is this final group that exhibits a high level of satisfaction with the overall performance, suggesting, therefore, that these companies are at very best relying on performance from high output of goods using minimal number of high investment HR policies and practices.

Figure 6.12 Workplaces changes in the past three years by cluster membership

Nature of the changes	Percentage	Cluster					
		1	2	3	4	5	6
Introduction of new plant machinery / equipment	71	70	67	72	79	79	57
The introduction of new working practices	67	91	65	60	83	54	43
Major investments	57	58	55	51	66	79	36
New Managing Director	56	42	43	61	79	68	43
Launch of a new product	46	48	47	52	55	32	21
Changes in the level of technology	43	52	51	42	38	46	7
Redundancies	41	30	45	45	38	43	36
Increased accountability to business units	39	48	47	31	34	43	29
Change in ownership	29	33	16	22	45	50	29

6.19 Summarizing research question 5

In this section the relationship between HR and performance has been reviewed in the light of market share and recent workplace changes. Through this analysis the role of HR is shown to be complex, for instance where high numbers of HR policies and practices are seen in cluster 4 but where the performance is weak. Such complexities raise the concepts of workplace change, management approaches to HR, and employee expectations and the potential role that they may play in establishing links between HR and performance.

6.20 Conclusions

The use of cluster analysis has sought to narrow the focus of analysis. In doing so six clusters, each with differing levels of HR practices has been identified. The two extremes of the clustering process (cluster one and six) provide particularly interesting data. A review of these clusters, lessons for the remaining research and the selection of cases will be discussed here.

What is clear from the analysis is that cluster 1 represents a set of workplaces operating with high levels of HR practices and high performance levels. In this group the commitment of employees to the company is high, and the subsequent quality of work is better than the previous year. This group is striving for better competitive advantage and has engaged in changes that may influence such achievements, through technological changes and new working practices. Many of the HR policies and practices that this group of workplaces engage in are related to the complete set of six bands that Purcell describes.

Cluster 6 is also interesting, as it is low in HR *and* presents an acceptable level of performance. There is not the empirical evidence here to clarify the strategic position of this group, however, in principle the results reflect many of the earlier discussions, as proposed by Arthur (1992) and Youndt et al., (1996); that it is the effective alignment of the manufacturing system and the HR system, usually through strategies, that improves performance. Cluster six, with further work may, therefore, provide support for the concept that it is strategic alignment, and not the presence of developmental / soft HR practices that enhances performance.

In the context of this work, however, cluster six provides evidence to suggest that the adoption of HR practices, such as those discussed in this research, enhances performance. This is due to cluster one and cluster six differing in their performance indices: 17 and 12 respectively. Such differences also need to be considered in the light of the self-reporting where cluster one are unsatisfied with their performance. There is, therefore, the possibility that their performance index figure is lower than it

may otherwise be. This is in contrast to the performance index of cluster six that is lower than cluster one, and the companies purport to be, on the whole, satisfied with performance.

The contrasting nature of cluster one and six highlights the benefits and disadvantages of the reliance on questionnaire data. The questionnaire has provided a broad span of information that has enabled many propositions to be challenged. This data also enables the identification of a group of companies that are of significant interest for further research.

The questionnaire has provided one approach to the recognition of HR and performance within engineering workplaces. By measuring the incidence of practices, this data highlights that the workplaces, in cluster one, adopt a wide range of practices. However, there remains a lack of distinction, within the clusters, as to the *unique combinations* that companies adopt and *why* the combinations are adopted. Although further statistical tests would enable the identification of practices that are linked together, and underlying practices (through regression and factor analysis), this data would fail to answer, empirically, *why* these HR practices are employed together, and *how they interact* to improve performance.

Such are the limitations of the questionnaire in addressing the process issues of people management, HR practices and performance that further research is essential in order to challenge these issues. One of the purposes of the development of the questionnaire was to access engineering workplaces that engage in HR policies and practices. The outcomes of the research, and the clustering, include a group of thirty-five workplaces operating with high levels of HR.

Following a review of the workplaces available for further involvement the following elements were considered in the initial selection

- performance and HR indices scores
- the qualitative questionnaire data (open questions)

- geographical location
- demographic characteristics for comparison with the sample population.

The evaluation process led to initial contact being made with five engineering workplaces and four were selected. Details of the characteristics of the workplaces, and a thorough analysis of the presence of HR in each of the workplaces, are provided in the following chapter.

7

People management in operation

7.1 Introduction

In the previous chapter the questionnaire data provided information to all but one of the six research questions. Through a different methodological approach qualitative data, in the form of case interviews, has been gathered which offers the opportunity to address each of the research questions, with particular emphasis on research question six¹. The aim of this chapter is to consider the cases in their entirety detailing the data from employee and management interviews, their views on HR and their interactions with one another. In the following chapter greater analysis, of the research evidence presented here, is conducted drawing together themes and emerging concepts. This chapter does not aim to consider why a case approach may be appropriate for organisational research, as this has been covered in previous chapters. However, some initial comments will be given to the differing contributions between the case study and questionnaire approaches.

This chapter will initially review elements of the demographic and contextual variables of the cases, in order to provide a wider understanding of the characteristics of the workplaces. Following this review, information regarding the adoption of HR policies and practices within the workplaces will be assessed. The analysis will be conducted using both the questionnaire, and case study data. The differences identified between these data sets will seek to highlight not only the strengths and weaknesses of the two methodological approaches, but also the state of HR within, and between, each case site.

¹ To what extent is the process of introduction and management of human resource policies and practices critical to their effectiveness?

These differences will then be further explored through an analysis of the dependent variables using a variety of theoretical frameworks in chapters eight and nine.

7.2 Case Characteristics

By reviewing the characteristics of each of the four cases their similarities and degrees of uniqueness will be identified. Attention is given to aspects of the external environment of each of the cases including influences such as the customer markets, governmental influence and characteristics including workplace size, age and work force. A summary of the characteristics of the cases is given in Table 7.2, in which details such as skills and technology are reported from the questionnaire.

7.2.1 Manufacturing and engineering processes and customer markets

The four workplaces, selected for further research, vary in their methods of production and the nature of their customer relationships. Huck (UK) and SHL are engineering workplaces where products are made from metallic raw materials, using heavy-engineering machinery. In DAP products are manufactured for the Aerospace industry from composite materials, requiring a clean and protected environment. In LAP Electrical the end product is the result of goods assembly for the car market.

The production of goods in Huck (UK) is supplied to up to one hundred and twenty customers (Table 7.1). The level of dependence in this relationship is not significant with the three largest customers taking only 10% of Huck's output. The three other cases show that they are more dependent upon their three largest customers, with DAP and LAP Electrical revealing the greatest levels of dependence with a customer base of nine / ten. It may be predicted that DAP will have complex production processes for the production of limited goods, receiving parts from some 200 suppliers. This is in stark contrast to Huck (UK) and LAP Electrical, where significantly smaller numbers of suppliers feed production.

Table 7.1 Case site customer base and suppliers

Case	Number of customers	Percentage of output taken by	
		3 largest customers	Number of suppliers
Huck (UK)	120	10	5
LAP Electrical	10	60	20
SHL	150	75	50
DAP	9	80	200

7.2.2 Beyond the workplace

The role of the customer is not the only influence that is to be explored through the case analysis. Each of the case sites operates with a relationship to the parent organisation, as well as other bodies. Whilst LAP Electrical is technically an independent workplace, the relationship with the organisation from which it was the subject of a management buy-out remains strong. The extent of the influence of these relationships is explored through the case discussions.

As part of this analysis of external influences attention is given, where appropriate within the individual case discussion, as to the nature of the role of Governmental and lobbying bodies (such as the EEF), on the adoption of HR policies and practices. What the evidence from the questionnaire reveals is that, as part of a group of workplaces that have a high number of policies and practices, each of the cases have used an external consultant to aid with HR and personnel decisions, and this is explored in each of the cases. There is evidence, too, that each of the case sites have turned to the EEF for guidance in the past twelve months². Possible reasons for the engagement of external

² Question 60 of the questionnaire provides data that each of the cases report to have sought guidance between 1-5 times in the past 12 months.

bodies include the Investors in People Award (IiP), to which Huck UK and LAP Electrical are committed, but that SHL and DAP have been accredited with. Whilst the achievement of the award is not a distinctive factor *within* the group of 'high' HR policies and practices, across the wider sample of workplaces, IiP is most likely to be considered within this group. Consideration will be given as to the contribution that IiP has in the uptake of HR policies and practices.

7.2.3 Size

Both Huck (UK) and LAP are characteristically small workplaces, with less than one hundred staff employed at the time of the questionnaire. During the interviews, the workforce at Huck had increased by 14%, with the majority of these new workers being on the shop floor. A more significant increase in workforce size was apparent within LAP where the workplace saw a 70% increase in its workforce. Again, this increase was primarily on the shop floor. During the research, however, fears of redundancy on the shop floor were also evident as LAP struggled, in 1997, to maintain orders during a difficult time within car manufacturing.

SHL and DAP are larger workplaces each operating with between 240 and 280 employees. DAP experienced a 20% decrease in its workforce, with members of the shop floor workforce having been laid off due to a predicted reduction in the order book. SHL had experienced no significant changes in its size or shape of its workforce during the period between the questionnaire and the interviews.

7.2.4 Workforce makeup

Given the differences in size of the workplaces it is perhaps interesting to note that the two larger workplaces have a smaller percentage of the workforce as managers (SHL at 4%, DAP at 5%). The smaller workplaces - LAP and Huck – operate with a larger number of managers as a percentage of the total work force (10%). Within these cases, however, the small workforce appears not to be managed by more managers, but

operates with a more developed support structure including marketing, sales and customer services.

The make up of the workplace workforces is typically male dominated with the exception of LAP Electrical, where 60% of the workforce is female. Somewhat unsurprisingly, the majority of the women within LAP work on the shop floor in unskilled jobs assembling the product. The other major employment opportunity within LAP, for women, is within the clerical teams. The high percentage of women within LAP makes this workplace quite distinct from the other three. LAP is not a typical engineering workplace, being assembly based, with a work force that is mainly unskilled (53%). LAP also has the lowest number of technical workers, reflecting the levels of low technology and low skill required by the operational processes.

Table 7.2 Case Study Characteristics (during 1997)

Characteristics	Huck	LAP	SHL	DAP
Number of staff (questionnaire data)	57	82	280	310
Number of staff (data from case work)	65	140	280	240
% managers (not team leaders)	10	10	4	5
% non managerial employees	90	90	96	95
% male employees	70	40	86	94
% female employees	30	60	14	6
% of employees unionised	0	80	60	50
% employees - technical	23	10	21	30
% employees - clerical	31	15	11	7
% employees – skilled	19	10	26	32
% employees – semi-skilled	7	0	40	27
% employees – unskilled	16	53	0	1
% employees part time	4	12	2	3
Number of customers	120	10	150	9
Level of technology	moderate	moderate	high	high
Number of years at current site	13	9	30+	8
Number of operational years	13	9	64	60+
Ownership (independent/business unit)	SBU	independent	SBU	SBU
British / non-British	American	Not applicable	British	American

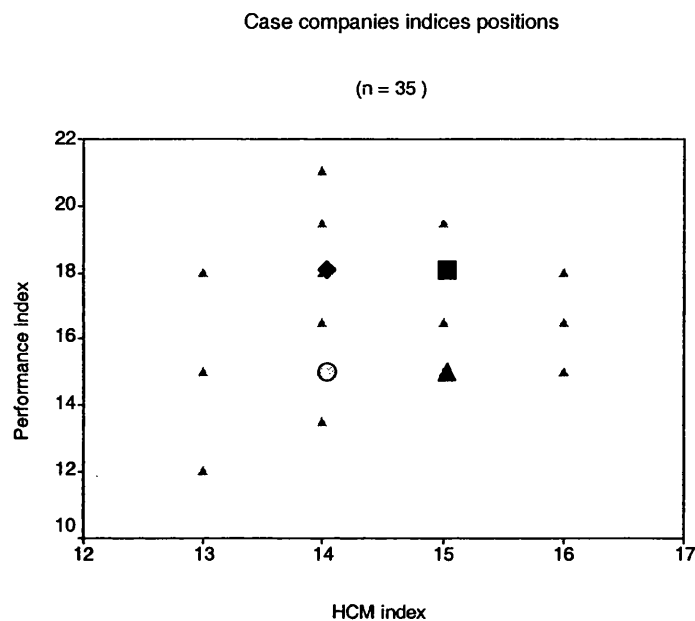
7.2.5 HR policies and practices

The following Figure (7.1) presents the distribution of each of the four workplaces selected for the case study analysis from cluster one³, as determined by the HR and performance indices. Further consideration of this distribution will be given at the end of the discussion of the cases. This is aimed at identifying whether there are differences between the questionnaire and case study approaches to the incidence of HR practices.

What Figure 7.1 shows is that, according to the questionnaire evidence, each of the case workplaces operates with slight different incidence of HR policies and practices, which is explored more fully in Table 7.3, and then through the detailed work of the cases.

³ The selection of cases is determined not only by the existing research agenda but also by the willingness of the respondents to become involved in the process. In this research, initial interest by engineering workplace respondents had been established through the questionnaire. This provided a unique set of workplaces from which potential research sites could be selected. With all of the research questions in mind a variety of cases were sought reflecting different ages, sizes and technologies thus enabling further examination of the impact that organisational characteristics have on the uptake of HR activities.

Figure 7.1 Case workplaces by HR and performance indices



Key	Case	Workplace	Cluster membership	HR score	Performance score
▲	1	Huck International Ltd (UK)	1	15	15
◆	2	LAP Electrical	1	14	18
■	3	SHL	1	15	18
⊙	4	DAP	1	14	15

The data from the questionnaire also displays a variety of common characteristics between the cases in terms of the HR policies and practices identified in the questionnaire (Table 7.3). Activities including trainability, attitude surveys, team working, job rotation and days of training per year, all feature in similar ways across the case. These commonalities are interesting, however, it is differences seen particularly in the types of communication and employee involvement practices that provide some indication that the adoption of policies and practices is unique to individual workplaces.

Table 7.3 The adoption of HR policies and practices - questionnaire (1997)

Practice	Huck	LAP	SHL	DAP
Recruitment and selection				
Trainability	y	y	y	n
Psychological tests	n	y	n	n
Internal promotion policy	y	y	y	y
Training				
Hours training for new <i>shop floor</i> employees				
Induction	37.5	30	2	8
Off the job	160	10	0	0
On the job	300+	10	35.5	74
Hours training for new <i>staff</i>				
Induction	37.5	10	2	8
Off the job	0	0	0	148
On the job	0	50-60	35.5	0
Number of <i>days per year</i> , of training for the majority of employees (after initial training)	2-10	2-10	2-10	2-10
Team working	y	y	y	y
Employees rotate between jobs regularly	y	y	y	y
Employee involvement / problem solving				
Problem-solving e.g. Quality circles	y	y	n	y
Suggestions received and implemented	y	n	y	y
Feedback on production goals	y	n	y	y
Formal performance appraisal	n	y	n	y
Attitude surveys	y	y	y	y
Is Job analysis used	y	sometimes	sometimes	y
Flexibility : use of job descriptions	not used	flexible	flexible	flexible

The following sections seek to illustrate each of the selected cases exploring, not only the key elements of the HR in operation, but other factors of interest particular to each case. Therefore, aspects of culture, management style or drivers for change will be discussed as relevant to each case. In exploring elements of the HR practices, links between policies and practices will be investigated through the comments of the interviewees. In the following chapter discussion as to the implementation and management of HR policies and practices will be discussed in greater depth.

7.3 Case one - Huck International Ltd (UK)

7.3.1 Research time frame and processes

The research questionnaire was completed by the Administration Team Leader, at Huck (UK), in November 1997. In the following September site visits and interviews were arranged. The initial visit involved spending time with the administration and shop floor team leader(s), reviewing the questionnaire and further establishing the activities that the workplace was engaging in. Further visits to Huck (UK) were welcomed and interviews with shop floor employees, team leaders and senior staff were conducted during a four day period in November 1998.

Other research activities involved attending the senior management meeting, where issues including new products, employee training, and financial reporting and forecasting were discussed. In total, interviews were conducted with the two manufacturing team leaders, six shop floor employees, the Kaizen officer, and the quality and manufacturing directors. During the research period, there was a complete freedom to select the interviewees, with it reported that there was no individual in the workplace with the 'authority' to instruct another member of staff to be interviewed. This equality of status and the absence of authority was the first indication that Huck (UK) is a workplace with a powerful philosophy.

The incidence of HR policies and practices, that was provided in the questionnaire (and seen in Table 7.3, in no way reflects the extent to which Huck (UK) adopts, and is committed to, progressive HR policies and practices. The questionnaire hinted at a workplace that was engaging in high commitment policies and practices, however, the questionnaire was unable to gain a sense of the philosophy and style that makes Huck (UK) unique.

7.3.2 Profile

Huck International (UK) is part of a wider organisation with the holding company in the US. Known as Cordent Technologies (formerly Thiokol Corporation), this organisation had, in 1997, annual sales of \$890.1 million, with net income of \$82.4 million; representing a forty percent increase on the previous financial year. Within Cordent Technologies there are three major products, including solid propulsion systems for the space markets, cast components for aircraft and industrial gas turbine engines, and high technology fasteners. Cordent's fastener producers – including Huck (UK)- supply to aerospace and industrial markets. Huck (UK) supply mainly to industrial markets including the heavy vehicle machinery sector, where component parts are used for trains and tracks. Production at Huck (UK) has become more varied since 1997, following the consolidation of work from a German plant.

The workplace is located in the modern business district of Telford. It has operated from this site for thirteen years. Supplying to one hundred and twenty customers, and supplied by only five companies, Huck claims a thirty percent share of the UK market and a fifty percent share of the worldwide market. Huck's three largest customers take ten percent of their business, and Huck is a sole supplier to at least one of its customers. Customer relationships have received closer focus for Huck management who are aiming to become 'solution providers'. Huck's suppliers work closely with the manufacturing department, and have facilitated the recent development of the Kanban system, 'There is a world-wide Huck strategy that aims to be world class'.

Huck International's goal is to create a dynamic quality culture which can meet constantly increasing levels of customer expectation: 'We are committed to Total Quality where all employees are trained to understand their contribution to meeting customer requirements'. In 1997 the financial state of the business was perceived as successful, by management, with a turnover of £20 million (UK sterling). Questionnaire data and interviews with managers indicate that the success of Huck (UK) can be attributed to the quality and distinctiveness of the product within the UK and world markets. The research investigation also reveals that it is the management style and contribution of employees that facilitates the success of Huck.

7.3.3 Management structure and style

Huck (UK) is part an international group of companies where there is a clear philosophy of quality and world class manufacturing. This philosophy runs throughout the organisation and is understood, by employees, to operate at all levels within the workplace. The organisation's ethos is reinforced through a number of media including the company magazine, where individual employees and companies are celebrated for their achievements in the areas of quality attainment.

Although there is a strong corporate philosophy, Huck UK operates with a high level of autonomy, with minimal input from the parent company in the US. The Managing Director commented that the parent company is 'happy to run' with the decisions made at Huck (UK), with information sharing with the parent company focused on financial forecasts.

Consistent with the philosophy of autonomy, the significant decision-making process at Huck (UK) involves the second tier management – the workplace team leaders. The senior team, which operates at the strategic level within the workplace, includes the Managing Director, the financial controller, the quality officer, manufacturing director, commercial director, the engineering director, the continuous improvement officer

(Kaizen) and three team leaders: two from the shop floor and one from customer services. This group is involved in reporting on the current state of the business and predicting future changes. Interestingly, the senior team operates without 'managers' a term which has been banned in favour of 'team leaders' and 'Directors'. The absence of this title is a deliberate choice by the organisation, with the aim of creating and developing a self-motivated workforce, who require leadership and not management. Supporting the move to work without managers, in 1995 a significant delayering exercise was conducted in Huck (UK). The existing middle managers (including an HR Manager) were viewed as 'failing to add-value'. Consequences of this change included the development of the team leader role. At Huck (UK) the team leader role is varied, and includes the management of budgets, control of stocks, employees absence and sickness records, and the general management of the shop floor employees and personnel issues such as training.

7.3.4 The site and the workforce

At Huck (UK) there are fifty-seven permanent members of staff, and no agency workers. There is a management team of ten with the majority (n=30) of the work force on the shop floor, operating as skilled or semi-skilled workers. The remaining employees work on orders, service and accounts. Since the workplace has been in operation there has been no representation of trade unions and comments from the shop floor suggested that the MD would 'flip' if trade unions were requested.

Huck (UK) competes successfully in the labour market attracting employees both locally and regionally. Offering one of the best employment packages in the area according to workers, they are attracted to the workplace from as far a field as Birmingham and Wolverhampton some fifty miles away. There is only one major competitor for labour in the area; this is GKN where basic salaries are higher.

Employees work in one of three areas: production, packing, or stores and tooling. It is rare for employees to move between these areas of work. Within the production area

there are two teams, of ten employees, each headed by a team leader. The product types, and hence the production processes, separate the teams. The production processes involve engineering work, for example working on the hot forge. This involves an employee processing raw materials, in this case steel cabling, by cutting and drilling it to produce metal fasteners. Other production processes involve the use of SPC in which all employees are trained.

Within the team, one man has responsibility for the production of a single good, or work-in-progress is passed within the team to be completed. There is little cellular manufacturing and each individual employee best knows the skills required to complete a job. The skills required to work at Huck (UK) include an understanding of engineering and manufacturing processes, that can be adapted to the introduction of new products, and used in dealing with the day-to-day problems of machining.

The Huck site includes a two storey, purpose built premise, developed in the early nineteen eighties that has comfort facilities including an eating area and lockers. Within this area there are notice boards, and individual pigeonholes used for passing on company information. It is clean and well maintained area. There are conference and training rooms, including computing facilities available to all employees. These are used for the induction of employees and on going training. The upper floor houses the offices. Working with a policy of open-door and equal status any employee has access to any room at anytime, where it is free, including the use of the MD's room.

7.3.5 Employee performance indicators

In an environment where there is a philosophy of involvement and developed responsibility it may be expected that employees are happy at work. Indeed the questionnaire data revealed that labour turnover in Huck (UK) is zero. It was confirmed, during the interviews, that this is a true figure and that the middle management redundancies were the only significant change to this figure in recent times. For the employees the benefits that Huck offers helps to attract and retain them: 'It's a

fantastic company: the package deal. I've looked at other jobs and they don't come up to the standard'.

Similarly, absenteeism levels, in 1997, were fairly low at 4%, and the senior management team were satisfied by this level. During a conversation with one shop floor employee, regarding the benefits and the sick pay that they receive, he commented that: 'I had a few days off a few weeks ago and I felt guilty'. This reflects not a culture of guilt and blame but one of team work, commitment and shared responsibility where employees are respected and valued. The consequence of which is that time away from work makes employees feel as though they are letting down their work colleagues.

7.3.6 HR function and policy

The delayering of middle managers at Huck, in 1995, included the HR specialist. Therefore, there is no personnel or HR specialist at the workplace. An Administration Team Leader was employed, shortly after the redundancies, to deal with the clerical matters around personnel practices. Her role includes keeping up to date with recent personnel / legislative changes and liaising with the external HR consultant on projects such as employee attitude surveys. This co-ordinating role is supported by each of the team leaders who have responsibility for aspects of HR such as absence, training and the personal development review (appraisal).

In essence the HR function has been devolved down to the level of the individual employee, who is encouraged to engage in self-development and self-empowerment by identifying training needs and addressing them through appraisals. The absence of a full time HR management post does not reduce the profile of the HR agenda within Huck (UK). The emphasis, in terms of HR, reflects the wider organisational philosophy of engagement and self-motivation.

7.3.7 Visions, Business Strategy, Human Resources Strategy

There is a strong work philosophy and sense of culture at Huck (UK). During the initial visit it was clear that there was an outstanding level of commitment to the workplace from employees, who also expressed enthusiasm for the way that life operates in Huck

Reading the 'Huck International' newsletter, it portrays a corporation with a strong competitive outlook supported by a dedicated human element. Huck's US plants are undergoing a training programme for employees to meet the company's lean manufacturing plans. The 'Huck Global Production System' aims to develop staff who can improve manufacturing processes, work better in teams and who can see how their jobs fit into the wider picture. This is achieved by using cross-organisation teams to improve a process and then present the findings. In Huck (UK), they too are striving towards this goal through a continuous improvement process referred to as Kaizen workshops. This process of improving the speed, accuracy and quality of products at Huck (UK) through tapping the knowledge and ideas of employees', focuses on becoming a 'solution provider'. Being a solution provider places the customer at the centre of the work process, requiring high levels of responsiveness and flexibility from the production teams and shop floor employees.

Away from the international goals, and on site in Telford, the sense of vision and philosophy is powerful. A team leader described it in this way: 'The vision is of self-empowerment, self-motivation and self-discipline ... The idea is that you try to convert the bad apple rather than kick him out. It's a nice vision to have'. Aligning the vision with visible performance outcomes is achieved in Huck (UK) through the development of the workforce. The manufacturing director suggested that: 'We want a highly motivated and skilled workforce. The soft and hard skills need to be developed', and one of the team leaders commented: 'The purpose is to fulfil the business plan via the potential in people'.

At the time of the research, aspects of people development were being addressed by the manufacturing director and shop floor team-leaders. They were addressing the people issues, including the concept of flexibility, through team development. Adopting a skills matrix for each employee, they will be monitored in terms of particular standards. Such standards will then be used to identify where best to place people within the workplace. One of the team leaders involved in the project stated that: 'We are aiming to reward those people who have the right qualities like communication, flexibility – valuable skills. We want to differentiate people for reward'.

This system is aimed at improving the opportunity for employees to move between jobs when necessary as part of the 'solution provider' objective. The scheme will involve training, and employees will enhance their portfolio of skills to allow for job rotation. The team leaders currently identify other training needs during the personal development review (PDR). The manufacturing director suggested that 'The PDR is like a strategy for people development. The purpose is to maximise their potential – to align people with the goals of competition'. A detailed analysis of employee selection and development follows.

7.3.8 High Commitment Management in Huck (UK)

Recruitment and selection

The use of a recruitment consultant at Huck (UK) – an ex-Huck employee - plays an important role in shaping the workforce. The consultant takes responsibility for advertising jobs and conducting assessment centre style selection processes. Talking with the administration team leader she explained the aims of the recruitment and selection process: 'The most important thing about a new employee is that he is a team player. Being a team player is more important than anything else including being a skilled player. This is because the workplace has a vision of multi-skilling for flexibility. We want to have transferable skills, which our sister company in the US has'.

The workplace achieves this via the use of a number of tests including 'maths, literacy, Health and Safety, dexterity, teamwork' to 'try to find out if we can work in a team' (comment from a member of the shop floor). The emphasis during selection is on individuals who are able to work well together, and those who are likely to have a committed approach to work (Figure 7.2). As one employee commented: 'They want people – personalities - that fit in'. The method adopted to achieve this is in the form of a peer assessment, where new shop floor employees and team leaders are taken onto the shop floor to 'meet the lads who I'd work with'. One team leader described how he was interviewed and then taken onto the shop floor and left with those who he would be managing if he got the job. Following this, the shop floor employees are asked what they thought of him. This team leader stated 'They [shop floor] wanted someone they felt comfortable with. I needed to be part of the team'.

Figure 7.2 Extracts from the Huck (UK) interview schedule for shop floor employees⁴

Question 5		
What is your understanding of team work?		
Score	✓	
0	<input type="checkbox"/>	Don't know
1	<input type="checkbox"/>	
2	<input type="checkbox"/>	Gives basic explanation of a team without giving any examples
3	<input type="checkbox"/>	
4	<input type="checkbox"/>	Gives example of teamwork from their own job or experiences <u>or</u> says why they think it is important
Other information:		
<hr/>		
<u>Question 6</u>		
What does continuous personal development mean to you?		
<u>Question 7</u>		
If a more experienced member of your team was continuously disgruntled, and only worked at a limited pace:		
How would you feel?		
How would you deal with this?		

⁴ Each question in the interview schedule has a similar structured answer system to question five. This schedule is issued to all the team leaders. The use of this standardised selection interview tool, introduced and monitored by the HR consultant, is welcomed in Huck UK.

Training and Development

Newly recruited shop floor employees are sent to a local college for anything up to six weeks for hands-on training to be able to work the machinery. In addition, an on-site induction programme provides new employees with information on what is manufactured in areas other than their own. For the employees, it provides a wider picture of what goes on and why. Recently recruited shop floor employees expressed positive reactions to the college training and induction process, stating that it provided ‘... a good insight into what happens.’

Once in the job, there is a significant amount of knowledge sharing between employees, with sitting-with-Nellie training adopted when appropriate. Following the initial induction the extent of training given becomes employee specific. As part of the culture of self-motivation and self-empowerment, employees are encouraged to request training: ‘If you don’t [ask] you don’t get – that’s the company phrase’. This may include courses at college. As a member of staff commented: ‘We will fund training for people if they want it. I mean it doesn’t have to be related to the job ... Well ... we wouldn’t pay for someone to do macramé, but there was one who wanted to do a degree and we funded that’. The identification of organisational training needs, and requesting such training, is the responsibility of the team leaders and the employees themselves. Such needs are usually identified through the yearly Personal Development Review.

The recent development of a People Profile by the manufacturing director and manufacturing team leader identifies existing skills and areas for improvement, for shop floor employees. Skills including team working, house keeping, commitment and flexibility are scored out of five, and training needs are identified. This profile sits alongside the Skills Matrix which deals with production issues, and together they provide a record of employees for reward or in need of developing.

Shop floor employees are not the only section of the workforce to undergo training. The MD is mentored by a Templeton College tutor, and reported that this helps to guide much of the thinking in terms of best management practice. The impact of this external source of guidance is that the learning environment was particularly strong. The senior team members are encouraged to vary their training for personal and organisational benefits. The existing manufacturing director, is the ex-finance director, he stated: 'They wanted me to know about World Class Manufacturing. I came from accounts so I went to Cranfield to do a course on WCM'. For senior staff, and shop floor employees alike, consideration of training is an important factor in employee retention. As the Administration Team leader stated: 'There is no ladder in the company. There is no-where for people to go. The only way to get on is to expand your job through personal development'. Getting the right employee into the right job is supported by significant investments in training and development. The flexibility of the senior team, where accessing external resources develops new skills and knowledge, is a process that is being introduced at the shop floor level. The objective of such investment is the development of the business through the human resource.

Team working and managing conflict

Within the recruitment and selection process there is a significant emphasis on the ability of potential employees to work within a team. There are two drivers for this including formal and informal. The formal driver is the desire of the senior management team for employees to become flexible through job rotation. At the time of the research, job rotation and multi-skilling had become a recent focus for a project. The informal driver behind achieving team players is the need for employees to work well together, and without conflict. In a union free environment, conflict resolution is a team leader responsibility. Interestingly the sense of comradeship was strong at Huck (UK). During an interview with one of the shop floor employees he said: 'The team works brilliantly together. We have a good laugh. I was meant to make up the team – the others are a bit wild and I am in to keep the others calm'.

The team structure is of significant importance to the way that Huck runs. The ethos of the team approach is to support the management-less structure, emphasising self-motivation and self-empowerment. Self-governance is reinforced through performance related pay and peer pressure. Whilst each man is responsible for his productivity, pay rewards (including pay rises and bonuses) are governed by the output of the team. Therefore, when one or two individuals fail to meet productivity levels, the team fails to receive any bonus: as was the case in 1997. The concept of the interdependence, team working and the internal customer is reinforced to new employees as they watch 'The customer is always Dwight' video on the importance of quality first time for internal customers.

The role of the team leader

The two manufacturing team leaders identified a number of issues that arise when doing their job. A brief outline of the responsibilities of the shop floor-team leader aims to explain and explore some of the challenges faced by these employees.

There are two team leaders who are responsible for the employees on the shop floor, and for the productivity levels. Together their staff numbers total approximately twenty, full-time and permanent, employees. In turn, the team leaders report to the manufacturing director and the MD. The relationships on the shop floor are good with one team leader stating: 'The manufacturing team work well together'. While the team leaders take responsibility for the shop floor employees, they do not have any formal authority. The team leaders are charged with the task of encouraging, promoting and nurturing activities of the employees without any discipline. One team leader stated: 'The senior management call it empowerment. We have to take responsibility for the teams but we don't have any power'.

The manufacturing team leaders commented that they were unsure as to whether they were doing their job correctly as they had not received any training: 'As a team leader I have no guidance. We don't know what we are meant to do. The management don't

know either so we are left in the dark'. The vision of self-empowerment is as applicable to the team leaders as to the employees and as one team leader stated 'They've tried to decentralise to the point that anything goes'. Such comments reflect the insecurity and anxiety experienced by the team leaders, who struggle with the ambiguity of the role and position of powerless-authority.

Job rotation and multi-skilling

Flexibility, through multi-skilled employees and job rotation, is an organisational goal that was being addressed by the manufacturing director and one of the team leaders in November 1998. The purpose of developing a flexible workforce is to enable production to continue, regardless of absences in the workforce. Currently, when a skilled shop floor employee is absent it is not possible to cover the work using other Huck employees, or through agency staff. The creation of a 'Skills Matrix' anticipates that employees will have training in all production areas within the shop floor environment, thus enabling each employee to move between production processes when required. As previously mentioned this project was to address the concept of the becoming a solution provider, in order to maintain and develop customer satisfaction, and retain the competitiveness of the business.

Communication

Communication processes at Huck (UK) are open, honest and operate within a policy of 'no secrets'. Information on the state of the workplace, production schedules and Kaizen outcomes is available to all employees. The vehicles for communication, including newsletters and team briefings, operate within a philosophy of equality, where all employees are involved in understanding and developing the business. This section will briefly review downward and upward communications, and employee involvement through problem solving processes.

Downward

There is a strong emphasis, by senior staff, on the use of verbal communications, which are supported by written communications at the shop floor level. Forms of downward communications include quarterly-review meetings, at which employees are told of their bonus / performance related pay levels. These meetings also supply details of the financial state of the workplace and forecasts for the year ahead. There are informal discussions between the team leaders and the employees, and formal team briefings held by the team leader. Employees cited the notice board and the newsletter as further sources of information.

Upward communications

The open and interactive style of management at Huck ensures that communications between shop floor employees and senior staff occurs as necessary. There are no obvious barriers to upward communications, as suggested by one team leader, 'Communication? Well there are no secrets here, anyone can ask anything'. Shop floor employees made similar comments 'Everyone is approachable here. If there's a problem then you ask ...'.

Communication, as a litmus test as to the nature of the relationships within an organisation, shows Huck (UK) to be operating a culture of openness and trust. There appear to be few, if no, barriers between employees and senior staff. A manufacturing team leader summarises the status of relationships in Huck (UK), 'We need less communication here due to the trust'.

Employee involvement and problem solving

The workplace believes that employee involvement in both working and cross-functional teams is the most effective method of continuously improving key processes and working towards complete customer satisfaction. The most distinctive and effective vehicle for communications and employee involvement, at Huck, are the

Kaizen workshops. The Kaizen officer referred to the process as a Japanese concept, linked to the Toyota Production System with three concepts: quality, cost (controlling it) and delivery. Guidance as to the structure and content of the Kaizen approach is provided through external consultancies.

The problem solving workshops are run in the Kaizen room, on the shop floor, each month. They operate with a mixed team of employees including senior managers, administration or sales staff, and shop floor employees. Each team is given a remit to tackle an organisational process and to make changes for greater efficiency, higher output and lower costs. The projects encompass all departments including production, customer services and sales. Each project takes a different amount of time, however, the initial planning and problem solving in a number of the projects took about two days. The implementation process takes about a month or more. Overseen by the Kaizen Promotions/ Continuous Improvements Officer (ex Production Manager at Huck), teams' activities are documented and presentations are given on the project results (Table 7.4).

Table 7.4 Example of Kaizen process (Confidential data)

Project Focus Areas	Previous state	Current state	Changes	Comments
Manning	4	3	Lost 1	25% decrease
Scrap rates	Not available	Not available	Not available	86% decrease
WIP	£26 000	£5 000	£21 000	78% decrease in costs
Inventory turns	Not available	Not available	150%	
On time delivery	57%	94%	60% increase	Improvement of 60%
Throughput	9 days	4 days	55% decrease	Improvement of 55%
Factory area	3660 sq. feet	1700 sq. feet	1960 sq. feet	Saved space

This Table (7.4) shows the outcomes of a Kaizen workshop, focussing on a manufacturing process on the shop floor. The data provided in this table is typical of the information recorded and presented to the workforce following a Kaizen process. The table indicates that savings and improvements have been made in a number of areas. At Huck (UK), the Kaizen process does not result in any job losses and employees are deployed within the workplace where necessary. The Kaizen teams had completed fourteen projects and in November 1998, had timetabled a further twelve for 1999.

The benefits to Huck have extended beyond financial ones, engaging employees in a unique process, creating a culture of involvement and added-value. On a basic level Kaizen provides structure and measures over changes: 'Kaizen ... It helps to get things done – like repairs and training. Before things drifted and got left and didn't get done'.

At another level employees are taking responsibility for making improvements within their jobs: 'After I got the waxing started we needed a new plate. When I've had a spare five minutes I've made the new plate do that should save us about half an hour tomorrow'. This 58-year-old employee had been with Huck (UK) for only a few months, and was keen to talk about his commitment and dedication to getting the job done.

Benefits

The package of benefits offered to employees is important in the recruitment and retention of quality staff. At the initial interview the administration team leader raised my awareness of its importance by saying: 'Most people don't move on because of all of the benefits that we offer'. Whilst employees could possibly command more pay at other local factories (i.e. GKN), it is the variety of benefits that attract employees to work at Huck. Factors such as:

- occupational pension scheme (employer contributes 10%, employees contribute 5%)
- private health care insurance
- life insurance contributions
- the use of a company car for all employees when necessary
- free eye tests and £55-00 contribution to spectacles
- expenses
- performance related pay

These benefits contribute to attracting and retaining staff and form an important part of the culture at Huck (UK).

7.3.9 Culture

Huck (UK) has operated on the site for thirteen years, and for the past ten years has worked within the management style and terms and conditions already discussed. Recent visions of self-empowerment, self-motivation and self-discipline have developed

the management style with inevitable consequences for the way people work. There were a few common threads hinting at a particular culture at Huck. These issues help understand how things happen at this workplace.

As part of the communication ethos the issue of trust was raised. A high level of trust between the senior team and the shop floor employees has been achieved through the devolution of authority. Comments such as 'You work without supervision and no management' and 'We are our own bosses really', reflect the level of autonomy that employees work with. Whether employees feel comfortable with this level of independence is somewhat confused, with employees commenting that 'It's a strange place' and that 'Some people still find it hard and they've been here a while'. For one employee the feelings were somewhat more striking, 'There's no structure. It pushes on anarchy. There's no definition against roles. There's a lot of ambiguity that causes friction and ambiguity. They don't like structure. You'll not find an organisational diagram here'. Such a hierarchical-free structure sits, with the employees, somewhat uncomfortably. However, the approach and culture in Huck UK appears to mirror, or at least seeks to mirror, the approaches adopted in the States, where the parent company is also a 'successful' business. In Huck UK the contributing factors to the development of an engaging and free enterprise culture appeared far less from any national influences, and more from the model company in the US.

Becoming accustomed to the lack of management direction, and lack of overt authority, proves challenging for many working at Huck (UK). However, while employees may feel confused and uncertain as to this innovative management style the consequences are clear 'Everyone is meant to be staff: there's no clocking in and out. I'm never late. I get here early to sort things out'. The commitment of the employees combined with a 'fantastic product' and a niche market makes Huck (UK) a workplace that month-on-month improves. Even the senior team seem lost in the success of Huck (UK) 'I'm not sure how it is done but we are increasing productivity each month'.

7.3.10 Summary

The employees at Huck (UK) are enthusiastic about working in an environment where formal communications and involvement are supported by company socials and an atmosphere of openness. While sometimes confused at the lack of management prerogative, the decentralisation of power, and *expectation* of employee involvement those working at Huck (UK) feel secure. Employees are at worst uncritical of Huck management and at best complimentary. The environment at Huck (UK) is one of self-development and improvement where training and participation leads to positive consequences for the workplace. The development of such an atmosphere of involvement and lack of authority appears to be driven from the beliefs of the senior team, in turn influenced by 'best approaches' portrayed in the US.

Huck (UK) is a relatively stable organisation, compared with the average workplace in cluster one, with a top team that change roles frequently adding to the knowledge of the organisation, through formal learning and experiential development. This stability enables a consistency of approach to manufacturing-engineering and HR implementation, without any sense of stagnation. Operating as though a Greenfield site, where new initiatives are introduced regularly without resistance to change, the MD encourages the culture of the global parent company. For the employees and managers alike Huck (UK) is regarded as an enjoyable place to work where lack of status promotes trust and enhances performance.

7.4 Case two - LAP Electrical

7.4.1 Research time frame and processes

The interviews at LAP were held over three days, over three months. The initial interview was held with the Managing Director and company owner⁵. On following visits the Operations Manager, three master-craftsmen, a team leader, four assembly workers, a Quality Engineer and a Goods-In employee were interviewed. The Operations Director selected the shop floor employees for interview.

7.4.2 Profile

LAP is the only case study out of the four case sites that is independent. It is British owned, and was the focus of a management buy-out nine years ago, from the car supplier Lucas. At a cost of two million pounds, the purchasers gained sixty-four employees and two sites. These sites are situated in North Birmingham, one in an old tyre factory, with the sister factory approximately one mile away. This research focuses on one factory, from where the senior partners operate, and to where the completed questionnaire referred.

LAP employees assemble a variety of products for the car market. Their main outputs are Fuel Pump Models for Rover (including LandRover) and Jaguar. They also produce light products such as Beacons used on emergency and MOD vehicles. LAP has taken on much of Lucas' business, and continues to buy new contracts from Lucas, which is steadily reducing its operations. LAP supply to a UK market, of which they have a moderate market share. They tend to supply within a close geographical to their site, which provides the company with a competitive edge. The geographical closeness to the customer ensures that the response time to any problem is short. Other key success factors within LAP include the quality and distinctiveness of the products. The

⁵ LAP Electrical is an independent site and as such is termed a company. Latter discussions reveal the impact of a key supplier of labour and product lines.

Managing Director stated that the company operates in a niche market, with few or no competitors.

LAP supply their goods to approximately ten customers, three of which take up sixty percent of the output. LAP is also sole supplier to at least one customer: Lucas Shirley. Within this customer-supply chain LAP receives parts from twenty suppliers. The role of the customer dominates work LAP Electrical with quality benchmarked against customer standards, as well as those of their competitors. LAP also works with a customer satisfaction form where delivery times and problems with quality can be recorded and fed back.

During the research period the state of the business was good. There was, however, a prediction of a down turn in work-orders in the future months. It emerged, during the research, that the company was less busy than it had been in recent months leading to essential redundancies (nine in total across the two sites) in the following twelve weeks. This is in sharp contrast to the increase in the workforce by forty six percent (from eighty employees to one hundred and forty employees) in the preceding year (1997-8). The impact of the strength of UK Sterling on the car market had been significant with many customers of LAP taking drastic measures by reducing production. As a consequence one employee stated 'Work is a bit stagnant at the moment'. In economic terms, the MD commented that 'Sales are at £9 million for 1999. We're almost at our peak now'. Profitability at this level was predicted to be £244,000.

7.4.3 Management structures and style

Two partners own the company: the MD and the Finance Director. LAP Electrical is lead by the Managing Director. The management team is relatively flat given the size of the organisation, with eight managers and anything between seventy-four and one hundred and thirty employees. There are the two senior partners: the Managing Director and the Finance Director. At the senior level there is also an Operations Director. There are five managers between the quality department, purchasing, and

goods. At the shop floor level, and in a supervisory capacity, are three master-craftsmen. There is also one female team leader on the shop floor who also has some supervisory responsibilities.

The management team makes the decisions in the organisation, and communicate the decisions down to the shop floor via the trade unions. However, they also seek the opinions and views of the shop floor employees, reflecting a management approach.

7.4.4 Style

The Managing Director displayed a strong sense of pride at his success 'his' company. The management style in the company was clear example of sophisticated consultative with welfare undertones. The Managing Director stated: 'We're quite compassionate. We don't want to put people out on the streets'. Associated with this style was an understanding of the position most workers find themselves in. The MD comments 'When you've got your backside on the line it makes you committed. When you've got families and mortgages to pay ..'.

The management style in LAP is fairly open with many of the employees stating that the 'management are very approachable' and there is 'minimum interference' from management in their work practices. One employee commented that management encourage the employees to 'come and help', by voicing their opinions for improvements in the company. It was suggested, however, that the majority of the staff are 'not interested' in engaging in this activity.

Employees perceive the flat structure as an advantage. They suggest that, unlike in a large company where the Managing Director is rarely seen, the senior managers in LAP are often available on the shop floor. It was stated that 'it's not really a hierarchy here. You can talk to anyone'. Many of the employees, both new to LAP and those who have come from Lucas, comment on how much they enjoy working within a small company.

Statements including 'you don't feel like a number you feel more like an individual' summarised the atmosphere of personable-camaraderie that existed at LAP.

7.4.5 Demography of the site and workforce

Situated in the North of Birmingham the company attracts its employees from the immediate local area. Competition for staff does not appear to be a problem for the management team, as there is a ready pool of labour within Lucas, which has been undergoing significant staff reductions pre sell-out. LAP has a workforce of one hundred employees; sixty percent of which are female. Over 95% of the workforce are white.

Many of the employees have long service. Associating their service with Lucas and LAP as almost one in the same, a few employees have established almost thirty-seven years of service between the two companies. Unsurprisingly many of the employees at LAP are near retirement age.

The TGWU and the AEU are represented on site with 80% of the workforce unionised. The role of the trade union within LAP appears to focus on terms and conditions of employment and in particular pay. They also focus on aspects of Health and Safety including accidents. The relationship between management and the trade unions, as proposed by one of the trade union representatives, is good. As a master-craftsmen and trade union representative he described management as 'okay', 'they will listen and they are fair'. Described as 'more like a PR job than like a trade union' the AEU representative emphasised that the trade union acts as a communication facilitator where a 'committee [would be needed] if they didn't have the trade union'. For example negotiations with trade unions members occur before any changes are implemented as this process 'tends to make things easier'.

7.4.6 Employee performance indicators

The labour turnover for the year 1996-7 was recorded at 0%. It is predictable that with the forthcoming redundancies this figure would not be replicated in the following year. However, accounting for the redundancies labour turnover would be at 3%. A later review of the recruitment and selection section of the case will reveal why the levels of turnover are low. Similarly the level of absenteeism for the period 1996-7, was low at 2.6%. The methods of recruitment and selection, the use of part time working and the terms and conditions of employment at LAP all contribute to this low record.

7.4.7 Shop floor

There are approximately five assembly areas within the factory. Each area operates with a group of approximately ten employees. There are, therefore, approximately fifty shop floor employees who are predominately women. These women are referred to as 'the girls' and are supervised, primarily, by master-craftsmen who are male, with the exception of one female team leader. Workers within the shop floor area are unskilled. The master-craftsmen are skilled employees and are recognised as setters within the manufacturing and engineering industry.

The old tyre factory is now a clean environment. The ground floor area is dedicated to the main reception, offices, the staff cloakroom, and the shop floor area for the assembly of products and Goods in / out. The offices of quality, finance and operations is an elevated area over the shop floor. Recent changes in the contracts have made space on the shop floor precious, as benches have been rearranged to provide space for new lines.

7.4.8 Human Resource Management Function: Policy & Strategy

There is no personnel function or specialist in this company. A 'Mentor' to the Managing Director, who is also a LAP Non-Executive Director, from the University of Central England (UCE) influences many of the HR issues. The Mentor has significant influence over the activities with LAP. This includes the use of psychological tests for

the selection and redeployment of senior managers, World Class Operator training, and benchmarking the characteristics of 'top' employees for future recruitment. Reflecting the Managing Director's desire to engage in external programmes the Industrial Society has been used for training on assertiveness. Much of the training within LAP is conducted at University of Central England (UCE).

There was clear verbal evidence that improvements in the HR systems were being approached in a planned manner. The Managing Director and the master-craftsmen passed comments on the future structure of the business and changes planned within it. Examples of these included management's desire to move to modular operating systems without a cell manager. It was anticipated that this could be achieved in three to four years via the Kaizen process. Other HR plans include training for the master-craftsmen and team leader roles in appraisal skills to 'help deal with the women', and the use of problem solving tests as part of the induction programme. It was also stated management are looking for 'improvements, low cost improvements'.

During the recent changes within Lucas, LAP management bought a complete production cell and team, which produces Beacon lights for emergency vehicles. This cell of thirteen employees includes a team leader and operates with job rotation. These processes had been established at Lucas and have become the epitome of best practice to the Managing Director, who aims to adopt the set up throughout the factory in three years.

7.4.9 Terms and Conditions

The workforce perceives the level of pay, within LAP, as okay. For some of the employees the company offers better rates than they would get in other jobs: 'The money was tempting in comparison to care work or working lunch in the school.' According to the MD, 'They've got nothing to complain about. They're the best paid in the area. They get the best pay and conditions for around here'. One employee commented 'with pay rises they've done the best they can'. Those employees who

originated with Lucas are 'partly shareholders', enabling bonuses and the opportunity to review the books. Currently 'there are no gains at the moment as they [management] borrowed money'.

7.4.10 High Commitment Management in LAP Electrical

Recruitment and Selection

Recruitment of employees to LAP is an informal process relying heavily upon word of mouth and personal recommendations. It is common practice within the company for mothers and daughter, fathers and sons to be employed together. When a selection of employees were asked about how they got their jobs, the following comments were made 'My mother is the secretary to the MD and she suggested that job to me' and 'My partner was working here for a number of years and she got me the job'. The recruitment process at LAP seems to lack any obvious structure, however, the use of the 'family' link is a strong theme and appears to be an informal strategy.

The selection of employees appears to be more structured for both the management group and the shop floor employees. Psychological tests are used for the selection of senior management, and for the internal reorganisation of the management team. The use of the tests was planned by the Managing Director who '...wanted to change attitudes and ideas'. He commented that 'There was some resistance but [I] did the first one and so the others [managers] did them then '. Reorganisation at the management level has also amounted to internal recruitment and selection. Examples include that of the quality engineer, who started in the company on the recommendation of his mother. After spending time on the shop floor, he has been selected and promoted from within. Similarly a, now, master-craftsman 'started as an operator and I knew that they would find [me] something else if it came up'.

For the selection of shop floor employees the Managing Director referred to the use of aptitude tests. He recognised that within LAP 'some of the recruitment is down to gut

feeling and common sense', a sentiment picked up by the Operations Manager who talked about 'feelings and instinct' when conducting his selection process. The use of the interview is a key selection technique within LAP, with all of the interviewed employees referring to being interviewed, regardless of personal recommendation. More recently, and within the last three years, some of the shop floor employees have been required to also complete a manual dexterity test, which occurs on an informal basis and is organised by the Operations Director. Greater emphasis is placed on post selection manual dexterity testing, associated within the induction programme.

Training and Learning

There is a significant amount of training occurring at LAP, with the MD seeking out financial support from the Government to fund training for 'small businesses'. For the shop floor there is extensive induction training held at UCE, which lasts for two weeks on a full time basis, and is conducted through a variety of media including: video, lectures and literature. For one employee it was rather too much and she suggested that 'It got boring at times.' Another employee stated that the two weeks training was about quality and Kaizen, with a couple of 'client visits', which included Rover. The relevance of the client visit was apparent to a number of employees, who suggested that the knowing the quality of the product is important to the customer. Training also occurs on the shop floor when there is a change in the product line. Currently this is happening every three years or so which, according to an employee, is frequent. This increased frequency of new products reflects the rapid changes in the market the way in which the Managing Director is set on keeping new contracts coming in.

For the master-craftsmen and the team leader there is appraisal training. For this supervisory group, and a selection of shop floor staff, there is also World Class Operator Training, which is held for one day per week, over an eight-week period. Both of these courses are UCE lead. When asked about training in the company one of the employees stated that 'It doesn't appeal to me. I don't want to do learning. I don't want any training – it's not for me. I mean if they made me do some then I would do it, but

otherwise I'm just happy'. This reflects that, whilst there are some employees who are willing to learn and develop, there are others within the company who are interested only in coming to work, earning the money and taking it home to the family. There is a clear message that whilst managers may aim to improve and develop employees through HR policies and practices, such an approach is not always willingly accepted by the workforce.

This is low-skilled work, therefore, the level of training required is much less than the potential in other companies. For some employees the induction training and then any subsequent product training will be the only training necessary. Given the nature of the work the induction training sounded very comprehensive.

Team working

As with the other case companies the use of teams was limited within LAP. Employees work in groups which 'By virtue of what we do we fall into cells'. For the majority of the shop floor workforce product assembly drives the group-working. Each group of employees is supervised by a master-craftsmen, who designates the work set by the Operations Director. The Beacon cell, that was directly transferred from Lucas, work as a team, with each of the employees taking different jobs each day. Headed by the team leader, who works on the line, the women in the team are able to complete a number of tasks within the cell.

Job rotation and flexible job design

There are three key themes that run through the interviews regarding job rotation. These include the idea that the shop floor employees are moved around to cover work when there are employees off sick. Employees suggested that the company would be 'stuck' if they were not able to move between tasks to cover work. Also, when the levels of work fall off there is the chance for the work to continue as employees are moved in to cover. One employee stated: 'You're always in the same group unless there's no

work and then you're sent to another job. It's mobility of labour'. The role of the mobility of labour is one that management have emphasised within the factory i.e. the ability and opportunity to move between tasks and work groups.

The third main theme is that of job rotation which in LAP Electrical prevents boredom for those on the lines, and provides a sense of equality where the boring and the difficult jobs are shared between all of the members of a team. Two of the shop floor employee comments included: 'It's a good thing you're mobile, it's not so boring' and 'You can keep alert by moving around. It stops you getting bored and they get more out of you that way. If you do the same thing then you start to slow down'.

Within the Beacon cell, the team leader suggested that the need to rotate jobs is important. She stated that, due to varying difficulty of the jobs in the cell, the women were more prone to arguing and complaining about being given the same, difficult, job. By rotating jobs, each employee in the cell knows that they only have to complete one day of the difficult job before being moved to an easier job, therefore, 'Because we rotate there are never any arguments'.

Communication systems

At the organisational level there are business meetings where a report on the state of the business and the future is discussed. These meetings are every six months and, at the time of the research, were used to disseminate the news regarding the redundancies. The day-to-day communications regarding work loads are cascaded down from the Operations Director to the master-craftsmen and team leader, who then take the information onto the shop floor. This information is shared with employees, yet there was no clear reference to team meetings or team briefings.

A common theme among the employees was that 'information is limitless' within LAP, implying that there are no secrets kept from the shop floor. Whilst there is the claim that there is a good availability of information, a master-craftsmen commented that the

majority of the workforce do not make any effort to ask management about the state of the business as 'It's not in their nature'. However, employees expressed that 'it's nice to know how your business is going'. This reflects the current uncertainty in the firm due to the levels of work falling off, linked to the crisis in the car market due to the cost of the pound. This provides an interesting contrast between the perceptions of the master-craftsmen of the workforce and the activities of the workforce. Perhaps the most significant difference between the activities of the master-craftsmen and the shop floor staff, is that the former will seek out information by approaching the senior managers, whilst the latter will await information being given to them. Within the discussion of the management style it was noted that LAP management are keen and open to suggestions for improvements from their employees. This section reviews whether there are any suitable vehicles for this form of employee voice.

There are, in LAP, quality meetings that occur every four to six weeks. These meetings provide the opportunity for employees to discuss new ideas, however, they are also a forum in which employees are able to share problems that they may be experiencing on the shop floor: 'if we've got anything that we are dissatisfied with our job... and improvements'. Another employee described the quality meetings as a way of 'bouncing ideas about'. The quality meetings appear to focus on trouble shooting problems, and provide opportunities for the master-craftsmen to identify any issues that may be impeding the production process. According to another employee 'they do work', citing a problem with four pins that was successfully addressed in this forum.

A master-craftsmen, who leads one of the group meetings stated that 'We have team meetings around quality lines mainly and production. There used to be quality circles but we are trying to get continuous improvement, so we call them Kaizen meetings'. Unlike organisational continuous improvement meetings they are limited to work groups and do not involve cross sections of staff from within the company. However, there is an element of continuous improvement, which was represented by projects listed and

displayed on the shop floor notice boards. Each cell has a list of recent changes visible to them.

Trouble shooting on the shop floor takes a less formal approach. The, recently promoted, quality engineer suggested 'if there is a problem on the line then they [the girls] will put their hands up and raise it [the problem with the master-craftsmen]. The only person to state that communication in LAP was 'crap' was the team leader from Lucas. I would suggest that this reflects the issue of expectations, where the ex-Lucas employee has possibly experienced more structured, formal or frequent communications.

Appraisal

Appraisals within LAP have been occurring for the past few years, however, it is only recently that managers have been using the term 'appraisal'. Therefore, during a number of the research interviews, when employees were asked about appraisals, they replied with statements including: 'What's an appraisal?' The employees recognised the appraisal system as a meeting once a year with the manager, where they discussed the job and any training needs. The master-craftsmen – who conduct the shop floor employee appraisals - described the appraisal as a way 'to find out how the girls are feeling and how they feel about management'. On the appraisal form there is a section that offers the shop floor employees to comment on what they would like the master-craftsmen 'to do better'.

Role of the master-craftsmen

One of the master-craftsmen described his role as a setter and a team leader rather than a craftsman. He suggested that the term master-craftsmen was synonymous to Lucas. In this role the master-craftsmen stated that he experienced a great amount of freedom where 'you are left to your own initiative', reflecting the level of autonomy and trust operating in LAP, between the senior and middle managers.

Within LAP the master-craftsmen role was described in the following way: 'I set the machines according to the drawings. I utilise the girls and keep records. I also check the SPC charts.' There is, for this employee, an emphasis on overseeing work being done, to listen to problems and to trouble shoot. This master-craftsmen does not usually work within the team adopting, therefore, a more supervisory role. Another master-craftsmen commented that he worked on the line with the girls, and that he would not ask them to do anything that he was not prepared to do.

The master-craftsmen role also includes looking after the quality checks on the products. Quality checks have been devolved from the quality department to the master-craftsmen, and as such 'the girls do not have any controls over quality'. Within the Lucas cell, headed by the female team leader, quality is the responsibility of two employees, and where further training will enable all members of the cell to take responsibility. Testament to the success of the recruitment and selection process one of the master-craftsmen described how he had been given more scope than in the past, and how he was enjoying the extra responsibility and the challenges the role brought.

While the role of the master-craftsmen is established within LAP, the plan for the management-free cell will alter these roles and favour the team leader approach. The team leader (Lucas-style) within LAP, involved responsibility for allocating work, monitoring absences and sorting out employee relations such as arguments.

7.4.11 Why do people work at Lap?

For many of the employees at LAP Electrical a key motivating factor in working there is the pay, and the closeness of the site to their home. Once at work the women comment that it is 'The people and the work' or that they are 'here for the atmosphere and the people'. The external factors such as money and family are important to the employees at LAP. It is a job and, therefore, when asked if she would do extra work one employee stated 'I'm not doing it if I'm not getting paid for it'. This reflects in part the culture of sophisticated consultative with welfare undertones that exists at LAP. The business is

family orientated, where people get jobs because of who they know in the company rather than what they know. Employees are also grown from within, with promotions and changes in employment as others are promoted. People work at LAP because it fits with their life styles and because it is regarded as a clean place to work – something that is of importance to those who work there, ‘It’s not my ideal work but I enjoy it and it’s easy work – clean and not oily and dirty’. While many of those who work at LAP Electrical are there due to the money and the convenience, the relationship with the management team is important, ‘The managers are very approachable. They come down to the shop floor any say ‘morning’’, and ‘They’re very, very fair people. They’re very good’.

LAP Electrical operates with a culture of sophisticated consultation with welfare orientated management, where employees enjoy the environment in which they work. The commitment within the workplace is directed to the people rather than production, and this exists between employees and managers. Communications are good with employees feeling up to date and involved in the direction that the company is taking. Employees are developed through training, and reviewed through appraisals.

7.4.12 Summary

LAP Electrical is a particularly interesting site, where the level of ‘independence’ is influenced and moderated by an external mentor for approaches to HR and quality issues, and products and teams are flown in from Lucas. The contribution that Lucas plays in affecting the way things are done in LAP Electrical cannot be underestimated. Such is the level of involvement from Lucas that it is difficult to unpick whether there are any other significant influences. What does emerge is that the MD is active in engaging with his mentor for direction as to training, quality standards, and good practice. The use of this mentor / consultant who has links to the local education provider meant that ‘best manufacturing practice’ and HR drove the HR agenda, rather than Governmental directives.

The perceived success of LAP is due to the dedication of the management team to making the business work. This in turn is achieved through the effective recruitment and retention of staff who 'fit' the needs of the business. The employees are committed to the organisation regarding it as a family.

7.5 Case three - Sterling Hydraulics Ltd (SHL)

7.5.1 Research Time Frame and Processes

The HR Manager at SHL completed the questionnaire and following an initial interview with him, the research was undertaken during October - December 1998 and involved observations, and interviews with senior managers, team leaders and shop floor employees. Overall eleven people were interviewed.

7.5.2 Profile

SHL is part of the Sterling Hydraulics group, and is based in Crewkerne, Somerset. The workplace has operated for over sixty years. In the 1980s the company expanded to include a sister company in the US - Sterling Incorporate – initiated by way of by passing the fluctuations in the international exchange rates. SHL (UK) currently exports seventy-five percent of their product to Europe and, at the time of the study, the workplace was experiencing some difficulties due to the strength of the pound. This had resulted in a decline in the order book by fifteen percent.

As a producer of hydraulic valves, and specifically cartridge valves for the 'mobile' industry, SHL supplies to a hundred and fifty customers. These customers are found in the 'mobile' industry, where products include digging and motorway machines. SHL's top three customers take up 75% of the business, with two significant customer relationships including JCB and Caterpillar. Caterpillar is SHL's most significant customer dominating twenty five percent of SHL's output, and having a heavy influence

over the operational quality issues. In operating in the world and UK market SHL is not a sole supplier to any of its customers, and there is direct competition for SHL through Integrated Hydraulics which is run by an SHL ex-draftsman. SHL management perceives that the workplace's success is due to its responsiveness to customers and product quality. In the company newsletter the MD, commenting on the low order book, asks 'everyone to consider ways of improving our efficiency ... thereby securing our future through 'very competitive prices'.

7.5.3 Management structure and style

The senior management team at SHL consists of the managing director, the financial, manufacturing and engineering directors, a human resources manager, a quality assurance executive, an information systems manager, the general sales manager and the manager for Sterling mechanical seals division. As part of the organisational changes at SHL there has been a new MD within the past twelve months. The previous change in the MD was closely linked to the change from 'big batch' production, with the emphasis on profit and not customer satisfaction to smaller batch production some ten years earlier. The introduction of a new MD in 1997 is seen as the opportunity to manage the changing needs of the business by addressing the needs of the 'customer'. The current MD is seeking to improve the customer focus through changing attitudes on the shop floor. At the same time a new financial director and an operations manager were appointed to facilitate these changes.

The management style, within SHL, is one where employees feel that the workplace 'looks after you'. Strong evidence exists to suggest that the managers are interested and concerned about the personal lives of their employees. There was also a sense of comradeship between a selection of the shop floor managers and their employees. However, in direct contrast, there was also an element of conflict exposed during the interviews with a strong sense of 'them and us' between the shop floor and management in terms of the HR processes such as training. There was *not* a sense of trust within this relationship, with the shop floor managers being critical of the workforce and their

attitudes to work. It was suggested that laziness was a consequence of their history as farm labourers, and the belief that these workers are 'fair weather' employees. Across the entire work force, sixty percent are members of a trade union.

7.5.4 Demography of the site and workforce

Crewkerne is a small, rural town in Somerset with a limited supply of labour. The workplace is situated on a small industrial estate in the town and is one of the largest employers in the area. There are two hundred and eighty employees working at SHL, including the senior management team of ten. On site there are a variety of departments including CAD engineers, sales staff, and a quality section, which is reflected in the high numbers of technical, skilled and semi-skilled employees (Table 7.2).

The site is split into three main areas with an administration block, the factory including the assembly area. There is also the Mechanical Seals Division. In the assembly area employees are paid a basic rate for their work and there is no bonus system in operation. If the daily assembly targets are not met the assemblers are disciplined. The women working in this area sit with a calculator keeping check on the number of products they assemble. The production and assembly areas (and the focus of this study) have approximately one hundred and fifty employees. The majority of these workers are employed from the immediate area. The production workforce consists mainly of semi-skilled workers, with skilled setters, using a variety of heavy machines to produce valves and valve blocks. The assembly workers are mainly unskilled, engaging in routine work. While the majority of the production area work in groups, only a third of the shop floor work in cellular teams.

There is only one main competitor for labour locally – GKN Westland Helicopters based in Yeovil. During the study two men left to go and work in Westlands where the pay is between twenty and thirty thousand pounds for a skilled man. SHL cannot compete at this pay level and GKN has left SHL 'exposed'. In other areas such as sales and design, SHL employs graduates. These graduates often leave, as the scope for promotion is

limited. In 1996 labour turnover was at eight percent. With little in the way of competition for the labour market, accepting the impact of GKN, changes in SHL's workforce occur mainly through retirements, providing a stable internal work force within a static external market.

Absence levels on the shop floor have recently been recognised as problematic following harmonisation of the sickness absence scheme between shop floor employees and 'staff'⁶. In response to this change management are 'coming down hard on these people [absentees] and they're being dismissed'.

7.5.5 HR Function, policy and practice

The HR Manager, at SHL, deals with applications for courses and NVQs at the local college, the LiP questionnaire, and recording absence and turnover. The role of accreditation under LiP, within SHL, ensured that a staff attitude survey had been conducted. Recruitment, as an HR process, has been devolved to the line managers within the workplace and is discussed in more detail later. There was no evidence of an HR strategy although, through LiP, training needs and the move to cellular manufacturing, there was some suggestion that informal HR planning was part of the wider manufacturing agenda.

Changes to the terms and conditions for shop floor employees have been harmonised in line with staff terms and conditions. These changes have included the introduction of a company pension scheme (5% and 5%), and the somewhat controversial sickness scheme. The semi-skilled and unskilled employees appeared satisfied with their pay, although the lack of bonuses for assembly workers was regarded as a disadvantage. The overall feeling was that the 'money's not bad'

⁶ Shop floor paid absence due to sickness has been increased from four weeks to sixteen weeks.

7.5.6 High Commitment Management in SHL

Labour supply and recruitment

At the time of the study, the recruitment of new employees had been suspended as a reaction to the economic difficulties linked to the strength of the pound. This coupled with a work force of employees with an average length of service of eleven years (maximum was fifteen and minimum was three), recent recruitment issues were not dominant, however, the recruitment of employees to SHL is an informal process. One manager commented that: 'All of the people are related to one another – like man and son. Recruitment is by word of mouth. It's a small town, everyone is related'. And a shop floor employee stated, 'If you know someone in the company and you put it on the form then you are more likely to get an interview and then it's up to you.'

Although recruitment had been hit by the economic position of the workplace many of the managers complained about the quality of potential employees from the local area.

In discussing training-up new recruits a supervisor commented, 'If the men are unskilled, even if they know how to set a machine, when something goes wrong – and it's engineering based – they haven't got a clue'. This reflects the levels of skills that the technology and machinery, in SHL, require of the shop floor employees.

Engineering skills also appear to be an important element of the job. Management commitment to training employees in engineering skills is challenged through the existing attitudes to the labour market. One manager commented that: 'Their memories and future projections are very limited. They have little horizon. The men are labourers and farm hands who just want money at the end of the week'.

Selection

It is the Operations Manager who conducts the selection of shop floor employees, and it was unclear as to whether the HR Manager has any involvement in this process. As with the recruitment process, the selection of employees is straight forward, with the HR Manager suggesting that 'We do it through interviews where we rely upon a person's

judgement to decide whether or not a potential employee is interested in moving forward or not'. The suggestion here is that desirable employees are keen for development. An employee commented that when they were initially employed, within SHL, they were expected to hit the ground running: 'I was meant to get more on the job training but they were busy so it didn't happen', 'There is minimum training – there's just not enough time'. Training and learning activities with SHL are mixed (Table 7.3), as the next section reveals.

Training and Learning

According to the MD training, in SHL, has taken the place of recruitment in the face of economic pressure from the pound. SHL invests in the future through training employees in order to create and maintain an internal labour market. SHL also dedicates time and money to training a select number of individual employees for NVQ level 1 and 2 training in engineering, and NVQs in administration and service, requiring equal amounts of work and personal time from the employee. As part of the planning of the future work force there are fifteen apprentices in the workplace. The development of individuals is supported through the links with local colleges to educate employees on producing new products. Those employees selected for training are described by an Assembly Shopfloor employee as being 'best for the group' based on 'personality, capabilities, anything like that'.

Given the length of service of the shop floor employees it seems clear that the skills within the workforce have been home-grown through development and training. This appears to be particularly relevant given the comments from managers on the availability of labour. One employee, who has served eleven years at SHL, told of how 'Without any great education I've managed to work my way up'. Another employee commented 'They want me to do an NVQ, which I am happy to do. It'll be good for me. The NVQ would be good for me if I leave the company. But I hope that I don't have to leave'.

This employee raises the issue of labour retention, which the quality manager comments on: 'There are two people in quality doing NVQs. The impact can be negative, as there are always problems of people leaving'. A shop floor supervisor raised a similar concern over investing in training only to then loose the skilled men to competitors: 'The technicians are manufacturing apprentices. It takes three years. We are loosing skills - we've been left exposed by GKN Westlands.' During the research period two men had left to work at GKN Westlands, based ten miles away. A supervisor said that the loss of employees to Westlands was cyclical, and determined by new contracts at Westlands.

Team working

The main purpose of introducing cellular manufacturing, in 1995/6, was to increase the speed of production to respond to customer demands. The cellular process has been implemented into two production sections of the factory. In one of the two sections, this involves a team of workers who are able to complete a variety of jobs within the cell by operating statistical process controlled machines (SPC). They are led, when appropriate, by a machine setter who is the cell leader. Talking with a cell leader on the shop floor he told me that now they can produce one of their products in minutes, whereas previously WIP meant that it could take days. This is more of a production design issue rather than a team and job rotation issue.

This set up is not mirrored in the other production section of the factory. The other cells are made up of employees who work only on one machine, and are grouped together by their product. Whilst there are cell leaders, there are also supervisors through-out the factory, who make the majority of the production decisions.

Flexible job design and Job rotation

As part of the cellular manufacturing ethos job rotation is a critical part of the team in SHL, and there are signs of job rotation through flexible job descriptions enabling

employees to work without demarcation. However, this is limited to the cell. For employees working outside of the cell, the flexibility afforded through loose job descriptions, enables the managers to move employees to other sections when the work runs out. This is possible because 'The jobs are quite similar'.

The key motive driving the move towards flexible approaches is the needs to respond to customer demands, rather than employee development. During discussions with the HR Manager he suggested that there was a desire to move employees around to give them a greater understanding of how their work and job outcomes affect other members of the company, 'We have been able to move people around, which is better for the employees as they learn more about the whole production process'. It was also considered that this would have an impact on the quality of goods being produced at different stages. When pushed on the benefits for the workplace, he said 'It is essential for meeting customer demands'.

Although the introduction of job rotation and has been successful within the cell, there are a number of employees who have more traditional attitudes towards flexible working. One employee commented: 'We are paid to set up and operate and that's what we do.' Another said: 'I do that job all of the time. That's what I'm employed to do'. It is attitudes like these that the MD is keen to change.

Communication Systems

There is a dichotomy of opinions in SHL on communications. Somewhat traditionally the management team believe that they communicate adequately – in terms of frequency and quality. The shop floor employees suggest that management are unwilling to listen to suggestions, albeit that the new MD has recently introduced a formal suggestion scheme. The evidence reveals that employees regard the workplace's middle managers as the key resistance to effective and open communications.

The main forum of communications in SHL is the relationship between management and the trade union. The second tier of communications is the interactions between the trade union and the trade union employees, and the non-union employees and their line managers. Direct communications between management and the shop floor employees is an infrequent activity.

Downward Processes

The vehicle for downward communication processes in SHL is the trade union and the use of notice boards. These media are used to pass on information from the monthly executive management meetings to employees. This monthly meeting focuses on issues such as budgets, new employees, NVQs, and HR issues. The other significant meeting at SHL, is the yearly meeting where managers share, with the employees, the future direction of the workplace. This meeting, which is well attended by the shop floor employees, provides information on performance related pay issues. According to the HR Manager team-briefings are made difficult with only three managers to one hundred and fifty employees.

Generally, information sharing at SHL is limited and the processes are engaged in only when it is essential. Comments from managers suggested that communications with employees occurred when significant and critical change was necessary for the survival of the business: 'They [senior management] realised that they needed to do things differently. They talked to the shop floor and told them that if we didn't do things then there'd be job losses'. The comments made by employees about the processes of downward communications suggest that information sharing is somewhat limited: 'Information ... it doesn't always get down to us' and 'It's a sore point. Sometimes it just doesn't happen. Sometimes it happens if it's urgent'. These comments are related to day-to-day issues, such as factors of production and order sheets. For one shop floor employees the level of communication is satisfactory. What makes him distinct from the other employees is that he is a member of the H&S committee. When asked about communication, he stated 'Fine. I've got no complaints at all. I'm on the H&S

committee so I work with management. You get to know them better. I suppose I am their eyes and ears on the shop floor.'

Upward communication processes & employee involvement in decision making

The formal processes for passing information up, from the shop floor to management, are limited. These processes include the recent suggestion scheme, for which the HR Manager commented: 'The MD is keen on suggestions. There are about two suggestions every three months'. The other formal process is the one-off attitude survey necessary to gain the Investors in People Award. There are no appraisals conducted with the shop floor employees, and there are no quality circles. The lack of opportunity to present their ideas or voice their complaints has left some employees bitter. One employee stated that as employees they are involved when the issue is linked to machining, however, this was an isolated comment and the following statement reflects the view from the shop floor more accurately, 'If they don't know about the problems then they don't need to do anything about it'.

7.5.7 Summary

The process of introducing production and HR changes, in SHL, has failed to be inclusive, negotiation orientated, or consultative in style. The management team have succeeded in adopting a push-through approach to change, where employee involvement has not been a key feature. This approach has led employees to feel undervalued and frustrated, confirming for many a culture of 'them and us'.

Downward communication is deficient in SHL with information only reaching employees via the trade union or notice boards. The lack of face-to-face communications, by management to their shop floor employees has developed a suspicious workforce where employees believe that they are not trusted by management. Similarly upward communications are inadequate and fail to engage the employees within the change process. The value of employee involvement through suggestions

remains an elusive concept. Managers at SHL have gone so far as to 'ask' about the introduction of new production practices, however, the decision remains with them. As an employee stated: 'I feel that they don't trust us down here. If that's the case then they are employing the wrong people. Modern working practices have gone beyond that – you ought to work together'.

Due to the issues of weak communication around changes, a lack of employee involvement and inconsistency in management style it is not surprising that there does not appear to be any obvious combination of HR policies and practices occurring at SHL. Unlike the previous two case sites (Huck UK and LAP Electrical) there was no evidence that the HR Manager or the MD was seeking external guidance or support for the development of their human resource. As a workplace that had been accredited with LiP, and had achieved quality standards from its main customers, what emerges from a review of SHL, is that the emphasis is most definitely engineering and manufacturing orientated. While the MD was often in attendance at local EEF events, this appeared to be the key source of external input from an HR perspective. The previously discussed adoption of 'cellular manufacturing', which followed watching a video and visiting regional sites, reflects the extent to which aspects of external contributors have had an influence in the direction of the business.

Perhaps as a reflection of the role that HR plays in SHL the number of policies and practices that were identified on the questionnaire, by the workplace is higher than were found in practice. Such an occurrence may reflect a variety of issues such as: the questionnaire respondent was the Personnel Manager, who may not be the most appropriate person to complete the questionnaire (Osterman, 1994) or there may have been a desire to inflate the results based on reputation. It is possible to propose that the HR index score for this workplace is higher in the questionnaire than the case interviews have shown.

7.6 Case four - Dowty Aerospace Propellers

7.6.1 Research time frame and process

The HR Manager, who runs a small HR department that includes a Training and Development Officer, completed the questionnaire. A number of employees were interviewed over three days and included: the quality manager, team leaders, shop floor employees, the HR Manager and a shop floor manager. The interviews were supported by documents that include appraisal forms and performance spider diagrams.

7.6.2 Organisation Profile

DAP belongs to the TI group⁷. This group includes four engineering sections: 'John Crane' specialising in engineered sealing systems for markets including shipbuilding, and defence, 'Bundy', which markets fluid-carrying systems for the automotive and refrigeration markets. The 'Dowty' section including Dowty Aerospace, which is wholly owned by TI and serves the aerospace engine and hydraulic and actuation markets. And finally 'Messier-Dowty' a 50:50 landing gear joint venture with Snecma of France. The Dowty interest operates with companies in the Americas, Asia Pacific and Europe.

Dowty

In 1997, the Dowty section of TI had a turnover of £475 million. In Dowty Aerospace Propellers (DAP) the production of sophisticated and high quality propellers occurred on site between Gloucester and Cheltenham. They have one main competitor in the States, and DAP exports to the States. Operating with high technological production processes DAP has achieved success in the UK and world markets occupying a 'moderate' level in both. DAP supply to nine customers with their three largest customers taking 80% of

⁷ At the time of the research DAP was part of the TI Group. Dowty, in 2002, is part of the Smith Group.

the business, DAP is also a sole supplier to at least one customer. They have around 200 suppliers but 48 'key suppliers'.

7.6.3 Demography of the site and workforce

The workplace has been on the existing site for nine years, following a move from another site one mile away, which had operated there for little under forty years. Several of the employees, who work on the existing site, also worked on the previous site. The reputation of the workplace within the employee group is good, and DAP is perceived as one of the better employers in the area. Unionisation is around fifty percent of the workforce.

There are 240 employees on site, although some eleven months previously there had been 310 employees. This is due to some significant changes occurring at DAP over the past three years. Three years previously a new MD was recruited to the workplace with the remit of improving organisational performance. Subsequently, and in the past year, the workplace has undergone a significant restructuring programme, through Business Process Re-engineering. As part of these changes the HR Manager was invited to sit on the Board.

7.6.4 High commitment management in DAP

Recruitment and selection

The recruitment and selection processes at DAP were not as important as other HR issues during the research. As the HR Manager stated 'There have been redundancies here - about forty people. We've predicted a down turn in sales next year and so we are doing it to protect the business'. Employees and team leaders identified the processes that new employees undergo when they are being selected into the workplace. At the practical level, 'First they have an interview with [the HR Manager], and then with

myself [team leader]. If they are suitable then they have an induction with [the training and development manager] on products and they have a look around... I introduce them to the team'. At a more philosophical level the workplace requires individuals with 'the correct skills: someone who can work as part of a team – you can't have a loner when you're working with twenty one other men in a team!'. Other 'correct skills' include the need for a new recruit to have engineering skills: 'We can train people up but they've got to have engineers skills. We train people up to understand the products as no-one can have that specific skills'. This reflects the complex nature of the technology and autonomy that employees at DAP are expected to work.

Accepting that the recruitment of new employees has been slow due to restructuring, the HR Manager commented in the future focus in terms of recruitment and selection, 'There is a great need for new blood. Employees tend to be here for a long time. Longevity of service is significant. We have employees who have worked here for forty-six years'. The impact on the workplace, by having employees, who have worked within the same system for a long time, is explored in later comments. Given the current employment situation within DAP and the need for skilled employees, and that employees have typically worked within the workplace for some time the issue of training in this environment will be discussed.

Training

The volume of training within DAP appears significant, with the emphasis ranging from on-the-job training to team leader training. For skilled employees they reported that they prefer the informal, on-the-job approach to training, as one employee commented, 'We get basic training to do the job. The best way to learn is to learn a job is beside him [your colleague]'. Within DAP the production sections of the workforce are led by team leaders, who experience team building activities are part of their development: 'We use ... Eastgate Training. Sometimes we do training outdoors, it depends on what we need. We've done things like building bridges and crossing streams'.

The interviewed team leader was very clear about the role and value of this form of training. He stated, 'I've been a team leader for two years and have been on four courses for supervisors. They're very good - you work with other people, so you learn how to deal with people in terms of relationships. It's different to how it used to be – not like using the big stick any more. That doesn't work any more'. This team leader identifies the training activities that he has experienced as a way to improve his understanding of how to work with people, how to encourage them and to motivate individuals within a team environment. Although this team leader refers to 'supervisor training', he proposes that the authoritarian style of people management is no longer accepted. While the personal development of team leaders may be beneficial in terms of the people management, the Quality Manager also makes the organisational benefits clear, 'It's mainly for flexibility and securing the long term future of the business'.

The role of training within DAP focuses on the needs of the business, which is consistent with the recent organisational changes. Responsiveness to customer demands, while facilitated through flexible working, can place significant pressures on the time of employees. Tight internal labour markets can lead to problems with training. As one shop floor employee commented, 'I can't go on training as my job would be left. There are not enough people here to cope with training'.

The formal training processes are focused on the current employee needs and the organisational changes occurring within DAP. As part of an informal HR plan there are other development activities within the workplace. The HR Manager commented, 'We also have some self-development. There's a computer room downstairs where employees can go and learn a bit about PC's. It's just a way of getting the employees familiar with computers. We don't really use them at the moment but if we do in the future then at least some of the men will have become familiar with them'.

Team working

Associated with comments made about the recruitment and selection of future employees is the concept of team working. The HR Manager stated that 'The *objective* is to operate as teams. A few years ago we tried to make changes, now we are ready to change again for improvements. We are trying to change the culture of the business' [emphasis added]. Teams have been adopted in DAP and 'range from three to four people and twenty to twenty five people. The larger ones are on the shop floor'. The purpose of teams, from a production perspective was not clear, however, in terms of continuous improvement there were obvious benefits for the workplace. The use of teams in DAP will be discussed in more detail in the following sections.

Job rotation

As with team working, the concept of job rotation remains in its infancy with many of the men working on only one job. Within certain sections of the factory there is some multi-skilling and job rotation occurring, however, it is not common. The move to enhance flexibility through job rotation is being tackled through skill development. The workplace is trying to move away for the 'one job one man' process, with the semi-skilled employees experiencing some development: 'We're trying to get people with five skills – there are quite a few who are trained to do this'. However, the problem of freeing the men from the workload to enable them to training has already been highlighted. The purpose, from a team leaders perspective, of job rotation is that 'It gives more interest in the job – more variety. It helps me out trying to get the month's production out. If someone is sick than another can cover. The guys ask for it – they want to do it.' There is a dual role for job rotation in DAP: internal functional flexibility rather and job enrichment. Creating variety in this environment is seen as a relief for employees who comment: 'It's very mundane work here – it's propellers. Nothing really new comes in. When a new product come out it's a challenge ... [then I can] widen my knowledge in other areas ... it's all very mundane'.

Within the production environment of a single product, with only slight variations, and long cycle times it comes as little surprise that the senior team are attempting to enhance the variety experienced by employees. Changes within the workplace have been fast and frequent. The following section reviews the process of communication and employee involvement under the guidance of the MD and champion.

Communication

‘Since we’ve had our new MD he’s certainly introduced changes that have improved the management style. The fact that we have management meetings that are more open and more information is shared is enough to start with’.

‘It’s a lot better now than it was. I’m now invited to management meetings as a team leader. We get a lot of information – sometime too much. Some of the financial information is kept from us but that’s all. I’ve made a conscious effort to pass information down to the shop floor. It’s more open now. There’s nothing hidden away.’ These two comments from a shop floor employee and a team leader, show quite clearly that the communication processes within DAP are better than they have been. How the improvements have been achieved, and the impact on the employees is explored here.

Team briefings are the formal communication processes, through which the team leaders pass on information. They are used for ‘high priority issues’. As one team leader stated: ‘Me and the lads on the shop floor communicate day-to-day. I am out on the shop floor so they know whatever I know – I’m talking about simple things’. Other organisational issues are cascaded down to the employees on the away day where all of the employees come together where ‘There is a presentation as a sort of snap shot of production given by the MD’. This meeting addresses the yearly situations past and future in terms of ‘sales and marketing, financial and quality’.

Newsletters and yearly employee surveys provide other sources of information. Developments in the Kaizen process, continuous improvement workshops and production levels are displayed via notice boards. Communications are also facilitated through the workplace Works Council. This can be described as: 'a group of people who discuss company matters with the management, personnel and finance. There's a lot of non-union people. It gives them a say as well.' The employee council is made up of four trade union representatives, two non-unions representatives and two managers.

Another form of upward communication is the appraisal system. At the senior manager level a key purpose of the appraisal is the identification of training needs as '.. there's no link to pay'. For the team leader the appraisal '.. helps me get to know them [employees] and their feelings. It also identifies training – like the electricians course at the Tec'. And for the employee: 'The appraisal touches on training. It's about building a relationship with the team leader – to break down barriers ... to iron out personal problems'. The formal and informal roles of the appraisal become closely entwined and for the appraiser and the appraisee there appears to be a common understanding of the purpose. Open and frequent communications leave employees and team leaders feeling involved in the organisation, with a clear understanding of what is happening. Given the recent redundancies clear communications appear to have installed greater confidence in employees. Being involved in the organisation is established through other routes.

Continuous improvement and Employee involvement

The role of the continuous improvement workshop is to enable employees to make suggestions. Employees within a section run their own team and invite a 'guest' from another section each week. The team leader for the section is not formally involved. One employee described them as 'regular meetings where you can put your views on why things should be changed, or things bought. It gives you an insight as to why you can or can't do something quicker'. The training and development officer gave one

example of the continuous improvement workshops. He described to me a workshop in which he was involved to improve the working environment. This had focused on the provision of seating outside the factory enabling the employees to have lunch there.

There were strong feelings on the value and role of continuous improvement in DAP. As one employee stated: 'There have been a lot of changes though continuous improvement. The MD won't let it die a death'. Such management commitment helps to ensure that the latest programme is not a fad. At the time of the research, Kaizen projects were a key focus for both employees and managers at DAP. A Japanese Guru had been brought across to the UK, with his interpreter, at great expense to implement a series of Kaizen workshops. At thirteen thousand pounds per week, his presence in the workplace was a significant issue for the managers.

The role of the introduction of Kaizen to DAP is, as described by the HR Manager, 'to get teams to think about what they are doing day to day for continuous improvement from the individual. They get more responsibility this way'. He went on to say 'Kaizen is use to improve the product and to increase efficiencies and cost so that we can ward of competitors'. This can be achieved as 'It reduces the times to do the job. If we have any space then we'll bring jobs in that are subcontracted. For example we can half the time of a job by buying a machine that does the job in half the time'.

Whilst the Kaizen workshop process was a relatively recent change to the DAP site changes and outcomes were already visible to the employees. 'The changes that people have put in have been tremendous. The shop floor have taken to Kaizen better than the offices. The shop floor seems to have been held back'. The feelings that the shop floor have been held back in terms of their contribution to the organisation through ideas, is represented in some of the comments made by employees. 'Some of the things that come out of it we'd suggested before ... we felt quite frustrated'. A couple of the employees suggested that their managers did not listen them to. They also suggested that while they have made suggestions it has taken a formal scheme like Kaizen to

enable employees to have a voice in terms of change. One employee stated: 'There have been changes. Kaizen is an outside tool – no one in the company wants to make the changes. Kaizen takes the blame'. The implication here is that it has been easier for the senior team to bring in an external body through which organisational changes will be made. Using an external force removes the blame is the changes are unsuccessful.

While there are underlying currents of discontent over the needs to introduced a formal system to facilitate change the process appears to have been successful with a member of the quality team commenting that: 'We involve the people who do the jobs to resolve the issues. By involving people we've tried to break down barriers. The culture has changed'. Alongside the cultural change there have been other improvements from the introduction of Kaizen. An employee suggested 'That's why we're doing it; it improves profit. We were making nothing and now we get a bonus. It'll be almost seven hundred pounds. It gives you an aim to try for'.

7.6.5 Management Style and Culture Change

As many of the employees have a significant service history at DAP, their memories are long and they remember the before-and-after changes to the workplace. This section aims to review the 'old' Dowty, the move between sites and the consequences of the move to a new site for employee relations, and the current management style.

The 'old' DAP is remembered by an employee, who commented: 'When I joined DAP it was more hierarchical and autocratic: 'You do this or you're out''. This approach by management led to a rather inflexible organisation, that one employee described in this way: 'Dowty was a bit of a dinosaur and was in danger of becoming extinct. It nearly did. In the 80's when things started to change the Board didn't move quick enough and that's when TI bought us out.'

Some nine years ago (1988) the propeller business moved from another Messier Dowty business site and set up on a new site. Although only a matter of a few hundred yards the impact on the employee relations was dramatic. When asked what it is like to work at DAP one team leader stated: 'It's better, much better. My father was a manager. There was no way that I would have envisaged becoming a manager because of the attitudes ... When we moved here it changed. It became an open-door policy'. This team leader identifies that the attitudes between employee and management, on the old DAP site, were antagonistic, representing a strong sense of them and us. On the new site, such feelings are less apparent as the management style is much improved. Employees commented, Since we've had our new MD .. he's certainly introduced changes that have improved the management style. The fact that we have management meetings that are more open and more information is shared is enough to start with', and '[We have] a more open style of management. It is apparent that the management team are working harder to make sure that everyone is encouraged to participate – a participative style'.

The logic of the move remains clear, with the Quality Assurance Manager suggesting that 'Part of moving down here was to prepare people for a new way of working and a new culture'. More recently, the new MD has championed the open and participative culture. The process by which these improvements have been facilitated are identified, by a shop floor team leader, within the human resource and operational changes: 'They want to turn the company around to a continuous improvement company totally. They want this to run forever. It'll be a continuous improvement culture if you like. With any luck we might pick up new work.'

Another important factor in the change process has been the adoption of team leaders roles within the factory area. 'The team leaders have a bigger role in the running of the business.' They are involved in site meetings and play an integrated role with the managers. They act in a 'supervisory role', rather than working within a shop floor team. An employee suggested that 'The team leaders are now managers, they are part

of the management team. It was their gripe that they weren't involved enough so now they are part of the management team'.

7.6.6 Performance

The workplace measures success in 'financial terms and people terms'. In financial terms, one employee believes that DAP is not successful. The lack of profits has made the workplace one of the lowest paid in the group, causing 'bad feeling' among the employees. This may explain the recent bonus. DAP have control over their budget with TI operating a policy of 'no surprises', that is one of no bad surprises and no good surprises. Whilst this may be the case 'TI has a big impact'.

In employee terms the workplace uses employee satisfaction as a measure with criteria such as attendance, status of skills per department and the results of the yearly employee survey (static). Customer satisfaction is also used which is a measure of warranty returns and fault reports. Other factors include internal scrap, orders and sales. People performance at DAP is represented by 3% labour turnover and 3.5% absence which is viewed as satisfactory.

7.6.7 Summary

DAP operates in a changing environment where competitiveness is being sought through BPR, employee involvement and devolved responsibility to the level of the team leader. Such strategic objectives are driven by the recently appointed MD rather than from within the HR department⁸. Employees, with long service are impressed with the new style of management and enjoy the opportunity to be kept up to date with organisational changes. Some of the changes in the culture can be linked to the move to a new site some eight years previous.

⁸ The MD was not interviewed as part of the DAP case, hence some difficulty in identifying from where the key contributions to the direction of the business come.

HR issues receive a high profile and are included at the Board level. The clear absence of an HR strategy is consistent with informal plans for future activities. These plans and the existing HR policies and practices reveal a comprehensive approach to the use of HR in making performance improvements through the development of new ideas, and flexible responses to customer and work force demands.

7.7 Organisational outcomes and changes – a review of the case evidence

In discussing each of the cases it is clear that each operates within a different environment, supplying to differing markets and operating with different HR policies and practices. The impact of these differences, on the performance of the organisations, is difficult to gauge particularly as the value of this approach to organisational research is in identifying processes rather than outcomes. However, through the questionnaire there is some outcome data that relates to the employee, and the organisation. In reviewing this information it is anticipated that a more rounded view of the cases will be revealed.

In Table 7.5 data on the rates of absence and turnover is explored. What is evident is that employees working in Huck (UK) or LAP Electrical are unlikely to leave, with the level of turnover at zero, for the period between 1996 and 1997. Within LAP Electrical, the level of absence is also low suggesting that employees are okay. Absence in Huck (UK) is the highest out of the group at 4%, although this is not above the average for the questionnaire population⁹. A speculative reason for this may be due to the comprehensive benefits that employees receive in the workplace, in comparison to SHL where sick pay has just been extended to match that provided to 'staff'. Another reason

⁹ Average absence for the questionnaire population is 4.3%, with WERS data suggesting that manufacturing absence is 4.7%.

may be that the challenging and autonomous working environment is 'tough', although there was no evidence in support of this. In contrasting sickness absence with turnover there is little to suggest that employees are unhappy with their working environment. Employees in SHL, however, are the most keen to leave, which may be a reflection of the impact of near by competition poaching the semi-skilled and trained work force.

Table 7.5 Absence and labour turnover by case (1996-1997)

	Absence (%)	Labour turnover (%)
Huck (UK)	4	0
LAP Electrical	2.6	0
SHL	3	8
DAP	3.5	3

Absence and turnover offer one level of employee outcomes. In addressing the questionnaire the workplace respondents replied to the following performance issues presented in Table 7.6. What the evidence shows is that, in self-reporting on the behaviours of employees, the four workplaces believe that levels of commitment and quality of work is good. In DAP scrap rates are not low, and in SHL flexibility of employment and overall performance is cause for some concern. Overall, however, the results from the case study data are favourable when compared with the sample of engineering workplaces used in this research.

Table 7.6 Employee and operational performance outcomes by case

Question 53	Average (n=256)	Huck			
	strongly agree/ agree	(UK)	LAP	SHL	DAP
The level of employee commitment to the company is high	72	y	y	y	y
Worker hours lost to scrap are low	55	y	y	y	n
It is easy to respond rapidly to market demand through flexible employment practices	60	y	y	n	y
The quality of work by employees is better than a year ago	55	y	y	y	y
The company is satisfied with the levels of performance	55	y	y	n	y

The personnel and operational issues in Table 7.6 may be influenced by a variety of organisational changes such as the introduction of new technology on scrap rates. In Table 7.7 there are a number of changes that each of the cases identifies as having occurred in the past three years. It appears that SHL and DAP have experienced the most number of changes, although there is no way of identifying the extent of such changes from questionnaire evidence such as this. The four cases appear to have engaged in significant levels of change in comparison to the average scores across the

larger questionnaire sample. In particular the introduction of new working practices occurs in 100% of the cases, and the launch of a new product and changes in technology in 75% of the cases. Contextualising the personnel and operational outcome measures, such as commitment and quality of work, in the light of the organisational changes aids a more thorough understanding of the activities of the workplace. What is particularly interesting, having reviewed the cases from the perspective of their HR policies and practices, is that the development of systems of HR is subject to some significant influences. Most obvious are the relationships that the MD, within LAP Electrical and Huck UK, has with an external mentor, each of whom is linked to University. The extent of the influence of these mentors is not measured here, however, the fact that these individuals formed part of the discussions around the adoption of good HR practices implies that they have some contribution to make in each of the cases. Within DAP, the introduction of a new MD, who has included HR at the level of the board, has heightened the profile of particular HR processes and activities such as an open consultative style and frequent communications. It is the absence of any obvious mentor, or external guide, to the MD in SHL that makes this case stand out.

In accepting that the MD¹⁰ plays a significant role in the development of cultures and for the adoption of HR practices, is not to exclude other influences. Each of the cases reported, in the questionnaire, that they used the EEF for guidance on HR issues. During the case study process, and with the EEF project backing this work, the absence of comment about the EEF was noticeable in all four workplaces. What was more clear, was that the role of the customer and the activities of competitors had played a significance role in the cases¹¹. For SHL and LAP Electrical the need for high quality standards (including ISO 9001, TQM and EFQM), was driven by the customer rather than any other external influence. SHL had looked to the activity of their competitors before introducing 'cellular manufacturing', reflecting a customer-lead approach to organisational change.

¹⁰ In Huck UK, LAP and DAP.

¹¹ This was obvious across all four cases.

Table 7.7 Organisational changes in the past three years by case

Nature of the changes	Average (n=256)	Huck (UK)	LAP	SHL	DAP
Introduction of new plant machinery / equipment	66	✓	✓	✓	-
The introduction of new working practices	61	✓	✓	✓	✓
Major investments	53	-	-	✓	✓
New Managing Director	52	-	-	✓	✓
Launch of a new product	44	-	✓	✓	✓
Changes in the level of technology	39	✓	-	✓	✓
Redundancies	38	✓	-	-	✓
Increased accountability to business units	36	-	-	-	-
Change in ownership	27	-	-	-	-

Organisational changes, in the four cases, *appear* to be stimulated by the pragmatics of competition and customer needs. Throughout the interviews, certainly at the level of the shopfloor and team leader, employees made no comment as to the contribution of Government initiatives or the perceived value of the EEF in guiding good practice. Similarly, senior managers failed to consider these influences in the discussions of their adopted practices. Whether this reflects a lack of understanding of the bigger picture of good practice, or whether each of these cases keeps ahead of good practice through the use of mentors is not possible to conclude.

The consequences of the organisational change may be, in some way, consolidated through the impact in the UK and World product markets. Relative to their competitors the cases have self-reported their size of market share through the questionnaire. This information is presented in Table 7.8, and does not say very much about the success, or performance, of an organisation without any knowledge of the competition, except to

confirm that each case operates in very different market environments. This confirms earlier discussions that argue for appropriate and relevant measure of performance specific to the organisation (Ichniowski , 1992; Becker and Gerhart, 1996).

Table 7.8 Market share by case

	UK market share			World market share		
	Major	Moderate	Minor	Major	Moderate	Minor
Huck (UK)		✓			✓	
LAP Electrical		✓				✓
SHL	✓			✓		
DAP		✓			✓	

The information on the organisational outcomes within the four cases is useful in gaining some further context in which HR policies and practices are introduced. Figures regarding the levels of employee absence and turnover need to be set in the context of organisational changes such as redundancies, the introduction of new technologies and working practices, or change in ownership. In doing this greater clarity can be created when seeking further information through case analysis as to the cause and effect of change and outcomes (Wright and Gardner, 2000). This cause and effect relationship has not been addressed in this work and, as such, remains a key element in further research.

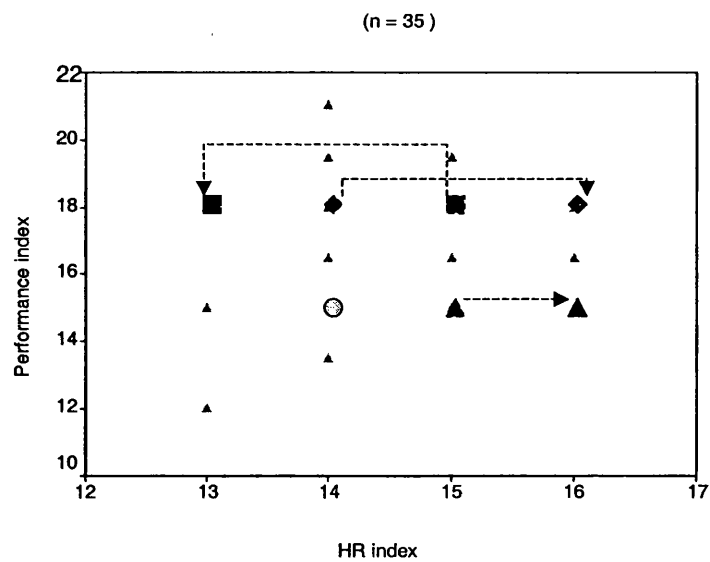
7.8 Summary

The process of the case study interviews has revealed some interesting insights into the adoption and incidence of HR policies and practices. More importantly the process has allowed for consideration to be given to the implementation and management of such policies and practices. In revealing 'how' HR is managed within four engineering

workplaces, this evidence provides a unique opportunity to discuss the theoretical propositions proposed in earlier chapters.

Having discussed the cases in some depth it is possible to reassess the incidence of HR policies and practices. What Figure 7.3 reveals, in comparison with the initial HR scores of Huck (UK) and LAP Electrical that were presented in Figure 7.1, is that the self-reported incidence of policies and practices were lower in the questionnaire than discovered through the cases. The discrepancies within LAP Electrical lie within the communication aspects of the practices with under ratings in the suggestions given by employees, and feedback provided by management. For Huck (UK) the presence of Personal Development Reviews did not attract recognition that employees receive appraisals. The results from the questionnaire respondent at DAP reflected accurately the incidence and operation of policies and practices for SHL, however, the interviews with employees threw into question the quality of the communication processes at work in the workplace. Thus suggesting that the initial HR score from the questionnaire was higher than it ought to have been. This evidence will be reflected upon in later chapters, in considering the role of questionnaire and case methods in this study, and future studies.

Figure 7.3 HR and performance indices reviewed



Key	Workplace
■	Sterling Hydraulics Ltd
▲	Huck International Ltd (UK)
◆	LAP Electrical
⊗	Dowty Aerospace Propellers

8

HR processes in practice – a review of the cases

8.1 Introduction

This chapter addresses the research questions using detailed evidence from the case data, with some reference to the questionnaire. By building a picture of the four engineering workplaces, through the issues of HR in context, HR systems and HR and performance the commonly under-researched issues of the introduction and management of HR systems are considered. In analysing the data in this way conclusions regarding research question six are sought¹. Part of this analysis also aims to consider the concepts of Universalistic, Contingency and Configurational approaches to the adoption of HR policies and practices.

Questionnaire data sets will be used here. However, it will be recognised, through the analysis, that the questionnaire data has provided *one* approach in recognising the contribution that HR can make to improved performance in manufacturing and engineering. The ‘counting up’ of HR practices gives an interesting starting point from which to consider the processes involved in the development and management of a system of HR for the management of people and employee performance. In reviewing the data from the questionnaire in conjunction with the cases, greater clarity will be sought as to the benefits of adopting a qualitative approach in this area of research. This, in turn, is aimed at understanding more about the nature of the contribution of the two approaches.

¹ To what extent is the process of introduction and management of human resource policies and practices critical to their effectiveness?

This chapter will address the demographic and contextual factors of the cases and how this information helps to respond to the research questions. The analysis then seeks to address the issues of how the HR systems have been created within the cases. The framework for this analysis relies upon elements of the six categories of the HR bundle identified in the work of Purcell (1997). A discussion regarding the mediating factors between HR systems and performance in terms of strategy will be followed by an analysis of the role of the introduction and management of the HR system for performance through the development of competitive advantages.

8.2 Contextualising the introduction of HR

It is clear from the description of the cases and the information displayed in Table 7.1 (chapter seven) that each of the cases is unique in its demographic and contextual factors such as size, customers, unionisation and age. In reviewing the demographic information and characterisation of the cases a greater understanding of research question three can be achieved².

8.2.1 Age, size and status

Those literatures, which focus on the contribution that workplace age, size and status has on the uptake of HR policies and practices, predict that young (less than three years), large and dependent workplaces will operate with the 'right' culture, and have adequate resources to enable HR practices to be adopted (Guest and Hoque, 1996; Arthur, 1992; Ingham, 1970). The evidence from the cases directly challenges these literatures.

² Under what circumstances are high commitment policies and practices most likely to be introduced into medium sized engineering workplaces?

Contrary to the perceptions about the age of the workplace and HR, this research shows that the age of the workplace has no bearing on the incidence of HR policies and practices, thus providing support for the work of Guest and Hoque (1996). The questionnaire and case data show that, within the sample, a workplace does not have to be less than three years old to have a high incidence of HR policies and practices. In particular all of the cases have been in operation for more than three years (with SHL and DAP existing for considerably longer than their time spent at their current site). Indeed the case data shows engineering workplaces that have been in operation for anything up to sixty-years are as likely to adopt practices as younger workplaces.

What the cases are also successful in revealing is that the underlying assumptions of the Greenfield approach to the adoption of HR policies and practices have some relevance in this research. Huck (UK), LAP Electrical and in particular DAP, all adopted the majority of their HR practices when they began operations on a new site. For DAP the move to a new site was a planned approach to facilitate changes to ‘the way that things are done’, through a shift in culture. As a team leader at DAP suggested: ‘My father was a manager. There was no way that I would have envisaged becoming a manager because of the attitudes ... When we moved here it changed. It became an open-door policy’.

The size of the workplace, and its impact on HR adoption, is a debate that spans both the HR literature and the ‘small is beautiful’ debate. The existing evidence of the size effect is mixed (Goss, 1991; Thompson, 2000; Osterman, 1994). In this research³, the four cases clearly show that smaller workplaces have the capability to successfully adopt HR policies and practices. The cases show that engineering workplaces with work forces of between 57 and 310 employees adopt high numbers of HR policies and

³ The CBI guidance, that suggests that a medium sized workplace is one with 200 to 499 employees, was largely followed in this work with the ‘larger’ workplaces in the sample being of between 200 - 500 employees.

practices. In particular, Huck (UK) and LAP Electrical, operate with high HR and performance indices and have less than one hundred employees.

Much of the debate around the size of a workplace is reflected in the issue of dependency – whether a workplace belongs to a wider organisation. It is assumed that when a workplace belongs to a larger organisation there is an increased opportunity for HR policies and practices to be adopted, due to the availability of resources (Osterman, 1994; Appelbaum et al., 2000). What the case evidence suggests is that the adoption of policies and practices is a reflection of current business need as well as corporate strategy, rather than status.

Huck (UK), SHL and DAP all belong to larger organisations but remain financially independent. The evidence from the study of Huck (UK) shows that the parent company can have a significant influence in the development of HR policies and practices and organisational culture. However, the main drive in the adoption of HR policies and practices in Huck (UK) is the MD, supported by the senior team, to reflect the needs of the business. In DAP, the adopted HR policies and practices are a reflection of the current needs of the business, which is seeking to survive in a challenging economic market. For SHL, being part of a larger organisation does not help determine the culture, management style or practices, as there is little evidence that a ‘corporate’ approach exists. LAP Electrical is the only company that is independently owned, but operates with close links to the original parent - ‘Lucas’. As a financially independent company LAP Electrical management seek to adopt HR policies and practices that are regarded, by external mentors, as value adding and best practice.

What the case evidence does, for the debate on the adoption of HR policies and practices within engineering, is successfully challenge existing assumed barriers. Workplace age, size and status do not limit the opportunity for HR policies and practices to be adopted. This information helps to focus more specifically on other influencing factors such as technology, the role of the customer and management approaches. Where the size of a

workplace is regarded as a factor that limits the diffusion of HR practices, greater lessons remain inherent from within the HR debate.

8.2.2 Technology

The questionnaire data for each of the cases identifies their self-reported level of operating technology, as shown in this extract from Table 7.1 (Table 8.1).

Table 8.1 Technology and levels of employees skills

	Huck (UK)	LAP	SHL	DAP
Level of technology	moderate	moderate	high	high
Skill levels				
% employees - technical	23	10	21	30
% employees – skilled	19	10	26	32
% employees – semi-skilled	7	0	40	27
% employees – unskilled	16	53	0	1
% employees clerical	31	15	11	7
% employees part time	4	12	2	3
Total %	100	100	100	100

What this table shows is that Huck (UK) and LAP Electrical perceive their levels of operating technology as moderate. The case research process revealed that the questionnaire was not able to identify the differences between moderate and high levels of technology. It appeared from the case process that DAP operates with levels of high technology, LAP Electrical with moderate levels and Huck (UK) and SHL operating either high or moderate levels⁴. The data from the questionnaire shows that SHL and DAP have the highest percentage of skilled and semi-skilled workers, with the lowest

⁴ The measure of technology relies on self-reports of how much training employees require to operate different machines within the workplace.

unskilled staff. LAP Electrical has over half of its work force as unskilled, with the highest level of part-timers. This suggests that the cases interpreted the question regarding technology as having links with the skills of the work force. It is interesting that those workplaces with high operating technologies employ high levels of skilled and semi-skilled workers to run the machines.

Following Osterman (1994) and Arthur (1992), what is apparent from the cases is that those workplaces operating with moderate or high levels of technology are more likely to adopt HR practices. This is consistent with the questionnaire data regarding the nature of the changes that workplaces with particularly high levels of HR practices had experienced in the past three years. The changes in levels of technology are closely associated with new investments and the introduction of new plant machinery, requiring changes to the work system. Such evidence provides further support for a strong link between the adoption of a comprehensive system of technological and HR processes, as recognised by Appelbaum et al., (2000).

8.2.3 The role of the customer

The role of the customer, and the uptake of HR policies and practices, is not commonly discussed in the HR literature, however, the results here show this factor may be a critical influence on the adoption of HR (Lowe et al. 1997; Kinnie et al., 1999).

The questionnaire data shows that links exist between a customer's interest in quality issues and the adoption of human resource policies and practices. Similarly, all of the cases exhibited links between customer influence on the adoption of quality related activities with the consequential adoption of HR practices (see extract from Table 7.1 in Table 8.2).

Table 8.2 Customer influences on HR and quality (questionnaire evidence)

	Huck (UK)	LAP	SHL	DAP
In the past three years have any of your customers influenced your:				
HR practices	No	No	Yes	Yes
Quality practices	Yes	Yes	Yes	Yes

Addressing these issues from the questionnaire, through the cases it was evident within Huck (UK) that the introduction of the Kanban system and QS 9000 were significant in the contribution to the way in which employees work. Other customer influences include the twice yearly ‘customer audits’ and ‘productivity targets set by the customers’. Within LAP Electrical TQM was introduced to guide the nature of the product quality processes. LAP Electrical management also ‘benchmark ... quality against customers and competitors’ and record their success against their ‘customer satisfaction survey’. Both Huck (UK) and LAP Electrical have responded to demands from a number of customers as a reflection of their customer base. This contrasts with SHL and DAP, which are dominated by single customers.

For SHL the role of the customer influences HR training of employees, audits for product quality and metallurgic testing. In addition, TQM, ISO 9001, and cellular manufacturing were recognised as playing an important role in ‘improving customer acceptance, responsiveness and a reduction in metallurgic failures’⁵. Finally, within DAP, customer needs influence HR training, and quality levels: ‘Our customers influence our practices.’ ‘Because of the market and a lack of customers we have to look at the way we do things. We need to work smarter. We need to address the culture - to redirect thoughts that quality is not linked to one department.’ And ‘Quality is everyone’s issue and they all contribute to quality.’ (DAP - Quality Assurance Manager)

⁵ This is data from the SHL questionnaire

Recognising links between quality initiatives, that are customer driven, and quality-orientated activities on the shop floor is not easily achieved through the questionnaire. What the cases revealed was a more intricate relationship between customers, quality, products and HR policies and practices. The evidence from the cases show that links do exist between the activities within the workplace and the customer demands for improved quality. Quality processes, such as the introduction of Kanban, enhance the involvement of employees in taking responsibility for quality (Huck UK).

The role of the customer extends, beyond determining quality, into the area of HR. The questionnaire results show that where customers are interested in HR there is a higher level of HR practices adopted. Such a result is not surprising, although within the workplaces studied only two out of four recognised, through the questionnaire, that their customers were having an influence. The role of the customer and the influences on HR and quality, highlights an area of confusion for practitioners. Managers appear more certain that customers influence the quality practices within their workplace, recognising processes such as QS 9000 as being critical to the supply contract. In achieving these quality outcomes workplaces engage in a variety of HR processes such as training⁶ and the use of off-line teams⁷ for effective implementation. The links between the process (HR) and the outcomes (quality) requires further investigation

8.2.4 HR / personnel specialists and consultants

The debate regarding the role of the personnel specialist and their contribution to strategic decision-making (Tichy et al., 1992), influencing management style (Legge, 1995), and their impact on the adoption of HR practices (WERS 3) continues to rumble on. The questionnaire suggests that the presence of a personnel/HR specialist is linked

⁶ SHL, DAP, LAP Electrical

⁷ DAP, Huck (UK)

to the incidence of HR policies and practices. What the questionnaire has not been able to explain is the role of the HR specialist and whether it influences the introduction of HR policies and practices, or whether the presence of the policies and practices leads to the employment of the specialist to help to maintain the policies and practices.

Table 8.3 HR specialist and consultants (questionnaire evidence)

	Huck (UK)	LAP	SHL	DAP
HR specialist	No	No	Yes	Yes
Have you used a consultant to help you with your HR issues?	Yes	Yes	Yes	Yes

Huck (UK) and LAP Electrical display high levels of adopted HR policies and practices in the absence of a personnel / HR specialist (Table 8.3). Within Huck (UK), however, aspects of the HR function are outsourced with particular support sought for recruitment and selection, through an HR consultant. LAP Electrical also provides a good example of a company displaying high commitment policies and practices that are achieved independent of an internal specialist, with the MD taking guidance from a external specialist (a University mentor), and their customers. It appears that some level of expertise is being sought, but that this does not have to be an internal resource within the company. DAP and SHL, whilst having HR specialist, do not appear to be any more advanced in the adoption and management of policies and practices than the other two cases.

These results bring into question the role of the personnel specialist within engineering. Accepting that the questionnaire showed links between the presence of a personnel specialist and customer interest in HR issues it may be possible to suggest that the role of the personnel specialist may focus on the ‘management’ or ‘monitoring’ of the HR system with emphasis on co-ordinating training, appraisals, attitude surveys and recruitment and selection activities. This may be at the exclusion of ‘introducing’ such

activities. Where there is an absence of a personnel manager, HR activities could fall to other members of the workplace (WERS 98, p.56) including team leaders⁸, operational managers⁹ and administrative staff¹⁰, thus closing the gap between the workplace needs and the HR processes. What is clear from the results of the case analysis is that the absence of a personnel specialist in no way inhibits the adoption of HR practices.

8.2.5 HR Strategy

Within the cases, there was no clear evidence of a written HR strategy. In Huck (UK) when asked about an HR strategy the Manufacturing Director commented, 'there is a world-wide Huck strategy that aims to be world class', at the operational level in the UK this is achieved through the 'Skills and People Development Matrix'. The absence of a written HR strategy within the other cases was more obvious. For example, within DAP the Training and Development Manager commented that the HR strategy was something that they 'kept meaning to get around to', but as yet had not managed.

This brings into direct focus the meaning of the term strategy, where the view of a formal and written approach to HR may be replaced by concepts and ideas. Richardson and Thompson (1999; p. 4) suggest that strategy can be regarded in terms of objectives and plans of action, with a greater focus on *how* policies are deployed rather than recording their *presence* within an organisation. The cases, therefore, provide very interesting evidence of the presence of HR plans, projections and conscious processes. Such plans do not rely upon the presence of a personnel specialist, and at best constitute an informal plan. In the presence of an HR, plan the key HR issues being discussed at board level and identified through the questionnaire include pay, training and recruitment. If it is accepted that topics such as pay, training and recruitment form an

⁸ Huck (UK), LAP Electrical

⁹ LAP Electrical

integral part of the development of a comprehensive HR system, which may then be closely linked to manufacturing and production systems within a workplace, HR may be viewed as contributing to a strategic approach.

Such links were clear in the cases where the drive for customer satisfaction, through high quality services and products, was central to much of the decision-making. The achievement of high quality processes for the production of goods was realised through the adoption of Kaizen workshops and continuous improvement meetings¹¹. Processes of this nature seek to improve the quality of the working life of the employee through participation and involvement; improve the security of employment through further customer orders, skill development and product knowledge; and reduce waste including time and scrap through employee and organisational goal alignment (ibid.). Such developments can be addressed through the adoption of comprehensive training programmes, through improved relations between managers and employees by reduced status barriers and flexible approaches to employment¹². As such the nature of the HR system becomes an integrated element of the business strategy.

8.2.6 Trade union

One of the activities of a trade union is to facilitate the introduction of HR policies and practices (Cutcher-Gershenfeld, 1992; Arthur, 1992; Thompson, 2000). The results from the questionnaire challenge the assumption that the trade union aids policies and practices *introduction*. Within the cases, there is clear evidence that trade unions play an important role in the *implementation* of policies and practices in the *development* of the HR system. Trade union representatives have significant role in the communication and negotiation of the introduction of policies and practices¹³. Representatives

¹⁰ Huck (UK)

¹¹ DAP, Huck (UK)

¹² This is perhaps seen most clearly through the HR practices and work processes adopted in Huck (UK)

¹³ LAP Electrical, DAP, SHL

mediate negotiations between the work force and the management reflecting their traditional role. However, this role is extended to persuade employees of the benefits of the new processes making the introduction 'easier'. There is little evidence that the unions have a role in managing the HR system, however, they appear to contribute to the management of the employment relationship.

8.2.7 Summarising HR in context

The evidence from the cases provides a more detailed understanding of the impact of demographic and contextual factors captured, initially, by the questionnaire. In Figure 8.1 these factors are mapped out in terms of their contribution to the adoption of HR policies and practices. Those that are influential, contribute in a positive manner.

Figure 8.1 Mapping demographic and contextual factors influencing the adoption of HR policies and practices

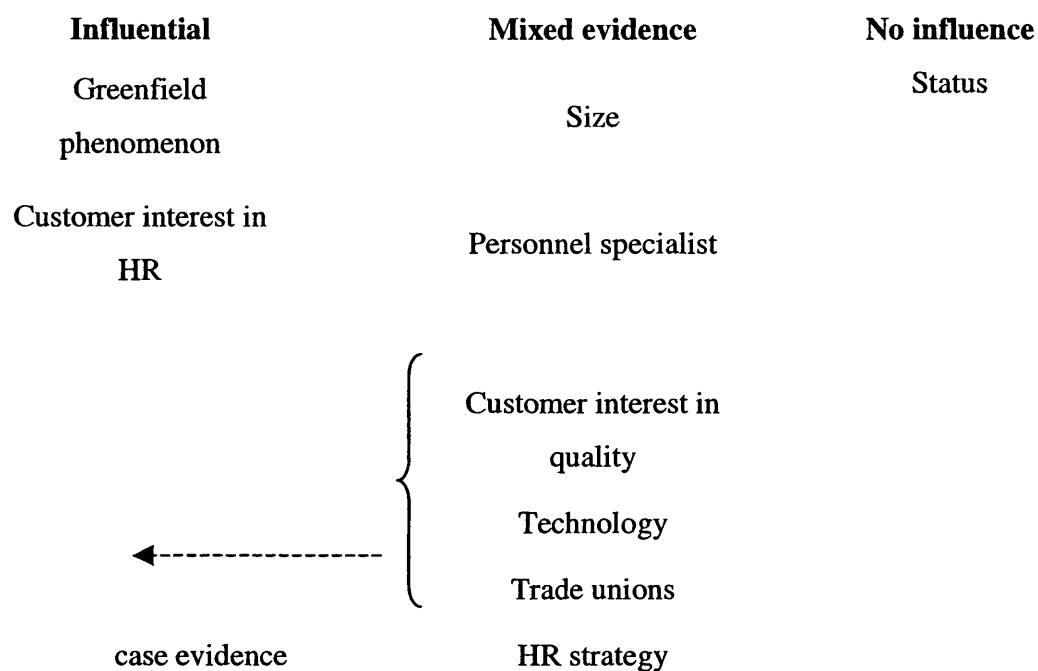


Figure 8.1 shows the combination of results from the research of questionnaire and case data. The ‘influential’ elements represent factors that are recognised, through both the questionnaire and the case results, as having an impact on the introduction of policies and practices. The ‘no influence’ elements are those factors that found no support through either methodology. The middle group of ‘mixed evidence’ is more interesting. This group of factors receive mixed evidence from the questionnaire and case data regarding their role in the adoption of HR policies and practices. The arrow shows the direction in which the case data supports the evidence, highlighting that factors such as technology, trade unions, strategy, and customer’s interest in quality issues are likely to

be important in the introduction of HR policies and practices. What this evidence does is to highlight the need for further detailed investigations as to the level of impact of these factors in order to identify the cause and nature of the relationship.

Through a combination of methodologies it has been possible to show that a number of alleged influential factors in the adoption of HR practices are in fact *less relevant* in the debate, than understanding their contribution to the process of adoption and management of an HR system. For instance, the case data has shown that the role of the trade union may not increase the ‘uptake’ of HR practices, but may facilitate their introduction¹⁴. Similarly, the personnel specialist’s role may be proposed as being critical in the management and maintenance of HR policies and practices, but not essential for their introduction.

The workplace factors of technology and the interest that customers have in quality issues are shown, through the cases, to be important in the alignment of approaches to manufacturing production, business strategy, and HR policies and practices. The role of strategy becomes a key focus in understanding what the goals of a workplace are, and the impact on the HR policies and practices used to achieve such goals. Without an appreciation of how these factors interact with one another, their relevance in understanding the HR – performance relationship, may be under-valued (MacDuffie, 1995). This evidence contests many of the assumptions around the conditions deemed to be appropriate for the adoption of HR policies and practices. In doing so, it recognises that there are few boundaries to restrict the adoption of HR practices within engineering workplaces.

¹⁴ Contrast of questionnaire data with the cases data from DAP, LAP Electrical

8.3 Combining and managing HR practices – the development of a system

This section seeks to review *how* the cases have adopted their HR policies and practices. This aims to challenge whether it is sufficient for workplaces to arbitrarily adopt policies and practices or whether there are other significant contributory factors present during their adoption and implementation. In doing this, such a review aims to consider the concepts of best practice and best fit (Universalistic, Contingency and Configurational) through the research evidence.

Reviewing the cluster analysis completed on the questionnaire data it is clear that workplaces operating high levels of HR and performance operate with activities in all the sections of the proposed HR bundle¹⁵. Cluster one is different from the other clusters in the adoption of policies and practices, in particular in the areas of careful recruitment and selection, employee participation, significant levels of training and learning, extensive use of communication systems, employee involvement in decision making processes with responsibility. There is less distinction between the different clusters of workplaces in the areas of flexible job design and team-working, and appraisals (for development and not performance). Given that all of the cases are found in cluster one it may be expected that they will exhibit some, if not all, of these HR practices.

What the high performing HR workplaces, from cluster one, appear to engage in are a variety of practices that enhance the role of the contributions that the employee can make (Ichniowski, 1996). By recruiting employees with the 'right' competencies, programmes of extensive training and communications ensure that employees are able to make value-adding contributions. Outcomes of this approach are the improved levels of

¹⁵ Chapter 6, section 6.13, labelled 'cluster one'

employee commitment and the quality of their work, with benefits to the organisation and the employee¹⁶.

The following sections review the research data in the light of research questions five and six, considering the introduction of HR practices, their combination and management. The discussion regarding implementation, combination and management will be facilitated through a comparative analysis of the cases. The aim of this section is to review the differences in approaches to the adoption of HR policies and practices, and the impact on employees and managers.

8.3.1 Recruitment and selection

Recruitment and selection are identified as important elements of the HR system (MacDuffie, 1995; Youndt et al., 1996; Cully et al., 1998). The recruitment and selection processes across all four cases, are very different with each satisfying different needs within the workplace. For DAP recruitment had been superseded by redundancies and within SHL the recruitment and selection of new employees is regarded as a necessary, but difficult, process by management. In Huck (UK) and LAP Electrical, the attitude from senior management towards recruitment and selection is very different from that in SHL. Both Huck and LAP Electrical operate with well-developed recruitment and selection techniques that ensure the organisation attracts and retains the right employees in the right jobs.

Huck (UK) and LAP Electrical operate with different recruitment techniques, however, both these approaches are 'appropriate' and fit with the type of worker that is required in the workplace. For Huck (UK) skilled, autonomous team players are sought with the assistance of an external HR consultant, and employees are selected via competency-based and attitudinal interviewing. In LAP Electrical being part of, and fitting in with,

¹⁶ Chapter 6, Figure 6.8

the family atmosphere is key, therefore, within-workplace contacts are used to employ individuals who will rub-along with the existing employees. At LAP Electrical, significant investment is made in the senior management team, through the use of psychological tests for selection and management development. This is consistent with the findings in the WERS 98 study where personality tests were most commonly used for hiring managerial staff (p.61).

8.3.2 Training

One of the more widely debated aspects of the HR bundle is that of training (MacDuffie, 1995; Huselid, 1995; Arthur, 1992; Youndt et al., 1996; Cully et al, 1999; Delery and Doty; 1996). Significant investment in training may be regarded as a signal of managerial commitment to employees (Appelbaum et al., 2000). Within the clustering process, training was an important factor in distinguishing between clusters. Within cluster one it was clear that training was engaged in by a significant percentage of the sample. Within the cases, the investment in training varies and the reasons for such variations are explored here.

Table 8.4 Hours of training for employees by case (questionnaire evidence)

	Huck	LAP	DAP	SHL
Induction	76	40	16	4
On the job	300	65	74	70
Off the job	160	10	148	0
Total number of hours of initial training	536	115	238	74
Average number of hours of initial training per employee	9.4	1.4	0.9	0.3

The data in Table 8.4 clearly shows that, following careful selection, Huck (UK) invests the most in terms of hours of training for its newly appointed staff. On average, each Huck (UK) employee receives 9.4 hours of training which is far in excess of any of the other cases. Within Huck members of the senior team have been encouraged to widen their knowledge base through University courses. The benefits of such approaches are clear to the organisation and the individual ‘There is no ladder in the company. The only way to get on is to expand your job through personal development’ (Huck, UK, Administrative Team Leader).

The level of training within Huck (UK) is significant, reflecting a philosophy in the workplace developed largely by the MD. Such high levels of organisational investment have an initial focus on the development of production-orientated needs, with a further focus on personal development for employees. This co-ordinated approach to the development of the workplace and employees appears to represent a strategy of training and development.

The independent company, LAP Electrical, engages in significant levels of induction training for new employees, followed by on-the-job training to learn organisational tasks. Training in World Class Manufacturing is also provided by the local college for master craftsmen, team leaders and some operatives. This training develops a variety of skills for the individual including communication. Similar to Huck the commitment to training is an important factor within the company. However, training that is directly related the workplace, takes priority over any personal development.

Within DAP, shop floor employees receive on-the-job training, and staff members receive off-the-job training. The HR manager outlines the process of training within the workplace: ‘We have a formal appraisal system that goes right across the company. There’s also a skills matrix process to identify training needs that arise out of the appraisals. There are also individual levels of development like Open University

courses. At the other end there is the hands on training for flexible skills at the grass roots. On the shop floor there is on the job training and specialist training’.

Unlike the appraisal and training structure within Huck (UK) and DAP, these activities in SHL are less prevalent: ‘I’ve never had an appraisal. The paper reported that ‘we’ - Hydraulics- were doing appraisals and having a skills matrix and it’s just not happened.’ (SHL, Manufacturing Shopfloor Employee).

The WERS 98 study found that training was most closely linked to a variety of characteristics including being part of a large organisation (p.63). The questionnaire in this study does not show any links between number of training days and status, a result that is supported through the cases.

8.3.3 Team working

The definition of teams is inherently problematic with the term open to interpretation.

Table 8.5 Adoption of teams (case evidence)

	Huck	LAP	SHL	DAP
Self directed teams with operational team leader (% of shop floor work force)	0	20	10	0
Teams with team leaders as managers	100	80	80	100
In transition towards self-directed teams	N	Y	Y	N
Cross functional teams for continuous improvement e.g. Kaisen (% shop floor work force involved)	100	0	0	100
Within group continuous improvement i.e. no cross function (% shop floor work force)	0	50	0	100

Reviewing the cases, the most clear example of cross functional / continuous improvement teams can be found in Huck. Trained employees with fundamental engineering skills are engaged in Kaizen workshops. The ethos of Kaizen, within Huck, reflects the philosophy of the workplace, where continuous learning and a freedom to think and develop are strongly encouraged. Within DAP, Kaizen is also recognised as part of a wider Business Process Re-engineering programme for change. DAP also operate Working Environment teams where cross sections of employees come together to address a variety of issues.

There are no cross functional teams within LAP Electrical or SHL. Within LAP Electrical, improvements are made through workgroup team meetings, more commonly referred to as a manufacturing team. In SHL the process of *direct engagement* of employees is more traditionally orientated with management opting to discuss change with the trade unions rather than through employee groups: 'The trade union meet management monthly for reference from the Directors meeting. .. to put information onto the notice boards for the trade union members', and 'The trade union talked to the employees about the benefits of the change like cellular manufacturing' (SHL manufacturing shop floor employee).

The change to cellular manufacturing within SHL for one group of workers represents a shift to self-directed teams. Self-directed teams (SDT) were uncommon with the cases, with LAP Electrical operating with one SDT out of six work groups. For those working in the SDT in SHL the experience is as follows: 'We work as a team there is four in a cell. We share duties like the clearing up. There is no leader as such at the beginning it was said that there is no leader so that everyone gets a bollocking if anything goes wrong. We are all equal.' (SHL manufacturing shopfloor employee). When asked about why such changes have been made the same employee stated: 'They'd [management] been watching videos from Japan and they asked if we wanted to do it.' The introduction of processes such as cellular manufacturing are largely unsupported by

extensive training in SHL, which is described as ‘minimum training – there’s just not enough time’.

8.3.4 Flexible job design / rotation & multi-skilling

A step below the autonomy offered by the introduction of self-directed teams is the adoption of flexible job design, flexible job descriptions, and job rotation where employees commonly move between jobs within the workplace. Levels of multi-skilling facilitate job rotation. Each of the cases exhibited different levels of flexibility around jobs. Within DAP and SHL there was a varied level of scope to move between jobs, supported by flexible job descriptions. In DAP employees commented: ‘We all do jobs that others can. We tend to move a bit. It’s better to move around, as the job changes a lot it keeps you up to date’ (DAP Manufacturing Shopfloor Employee). ‘People have a job. We’re trying to move away from this now’ (DAP manufacturing shopfloor teamleader).

Within Huck (UK), the process of flexibility for organisational benefit is clear: ‘We have job analysis that identified the lowest levels of skills that the employee needs to complete the job. If there are no job descriptions it is better because then an employee can’t say that he is not going to do a job. It protects the company. Job descriptions are too constricting, this way we can make the most of people giving them individual responsibilities. Not everyone is happy with responsibility but the new approach is helped by the team players’ (Huck, UK, Administration team leader)

Within the cases the levels of multi-skilling vary quite considerably. However, emerging from the data particular to Huck (UK) and LAP Electrical, is management’s desire to move towards multi-skilled work forces, recognising that the commitment to training employees is a significant investment - including time and money. Such investment may be influential in the diffusion of such approaches, with consequences

such as employment security for employees requiring considerable commitment from all parties.

8.3.5 Communications

The communication processes expressed through the cases appear as a litmus test for the nature of the employment relationship. At best, the frequency of communications within a workplace has been reduced through devolved responsibility, autonomous working, and high levels of trust leading to more communications that are horizontal¹⁷. At worst, communication is weakened by conflictual relationship, used as a weapon to maintain authority and power within the employment relationship¹⁸. In Huck (UK), employees are encouraged to express their views through both formal and informal processes. Employees contribute to the methods of production thus influencing the way in which they work, improving the sense of ownership and commitment. Communication in Huck is a vehicle through which the workplace makes improvements establishing, as it does, an employment relationship based on mutual trust and respect.

Within LAP Electrical communication processes such as appraisals, team briefings and continuous improvement meetings are used to listen to the problems and issues that shop floor employees have. In doing so management not only proactively problem solve but they also develop and maintain a content and satisfied workforce. The importance of the role of effective communications can also be seen within DAP, where shifts in the culture of the workplace are recognised through the open door policy, and team leader involvement in management meetings.

¹⁷ Huck (UK) is a good example of a workplace where the layers of communication are reduced through delayering and enhanced autonomy.

¹⁸ In SHL the lack of effective and engaging communication between management and employees reflects a difficult employment relationship.

SHL's formal communications systems, whilst as frequent as in other cases, are less effective in developing the relationship between the shop floor and management. Employees comments that 'Communication has always been a problem' are reinforced by 'Management will not listen to the shop floor. They have a set path and that's it'. In SHL the use of the trade union, as the key vehicle for communication, encourages feelings that management hide behind the union, reflecting the choice to avoid direct contact with the shop floor. The frustration of this situation, and the lack of management interest in employees contributions, can be heard in this comment: 'Notice boards are used frequently rather than face to face ... I could have an input if they would listen'. The impact of this is that 'People aren't working as well as they could do', suggesting that the absence of certain HR processes may inhibit performance.

8.3.6 Approaching the adoption of HR systems

Table 8.6 shows the HR policies and practices that are adopted in each of the cases, as identified through the case interviews, using the HR phrases from previous research (see Appendix I). What this evidence shows is that each case operates with its own combination of policies and practices, which have been discussed as being appropriate to the workplace.

Table 8.6 HR policies and practices within the cases

Practice	Huck	LAP	SHL	DAP
Recruitment and selection				
Hiring criteria	y	y	n	n
Trainability	y	y	y	y
Psychological Tests	n	y	n	n
Dexterity tests	n	y	n	n
Training				
Initial weeks training for supervisors/ team leaders	n	y	n	n
Initial weeks training for employees	y	y	n	n
Post initial training per employee	y	y	y	y
Team working				
Self Directed work teams (%) workforce	0	20	10	0
Off line teams (%)	100	0	0	80
Team leaders (%)	100	20	10	0
Flexibility				
% workforce rotate between jobs regularly (%)	0	20	10	0
Flexible job descriptions	y	n	y	y
Employee involvement / problem solving / communications				
Continuous improvement / problem-solving teams e.g. quality circles, Kaizen	y	y	n	y
Suggestions received and implemented	y	y	n	y
Feedback on production goals	y	y	n	n
Formal performance appraisal	y	y	n	y
Attitude surveys	y	y	y	y
Attitude surveys as part of IiP	n	n	y	y

Common to all of the cases are HR activities including: trainability, training for employees, and attitude surveys. These three HR activities do not form a comprehensive combination of policies and practices that would be consistent against the framework of Purcell (1997). However, in reviewing Huck (UK), DAP and LAP

Electrical a more developed HR system can be seen with variations around problem solving, Kaisen, suggestions, appraisal, and initial training being adopted. It may be possible to suggest, therefore, that there are HR principles that are common, if not Universalistic. The problem with making such a claim is that in reviewing the cases in detail the extent of activities varies significantly between workplaces (see hours of training in Table 8.4). What is more representative of the similarities between the cases is evidence of:

Figure 8.2 Developed HR systems – a review of the cases

- Careful recruitment and selection processes, mainly trainability, are engaged in and are often managed through external consultants (Huck, LAP Electrical).
- Extensive training with the greatest variations around off-the-job training (Table 8.4)
- Team working is common but takes a number of forms from off-line teams for continuous improvement (Huck and DAP), to self-directed teams with some evidence from LAP Electrical and SHL (Table 8.5).
- Flexibility in the form of flexible job descriptions is common, however, only half of those workplaces with moderate or high levels of technology do not appear to engage in job rotation or multi-skilling (Huck and DAP).
- Communications are prevalent in Huck, LAP Electrical and DAP for employee involvement and feedback.
- Employees in Huck and DAP are given the opportunity to have more responsibility through off-line teams.
- Appraisals are common, and are currently focused on identifying training needs.

This analysis of the case data highlights the challenges and weakness of counting policies and practices through the questionnaire. The data in Table 8.6, when compared with the dialogue of the adoption of policies and practices, becomes less meaningful as it is not set in the context of the HR system, the workplace or in the process of implementation. As such this information raises the need to consider further the

concepts of the Contingency and Configurational approaches, providing as it does limited support for the Universalistic approach to the adoption of policies and practices.

8.4 Integrating HR for competitive advantage

The work of Arthur (1992) and Youndt et al. (1996), propose that the link between the manufacturing strategy and HR strategy is the most accurate predictor of performance. This section seeks to identify whether strategy has a significant role within the HR – performance debate by focusing on research question four¹⁹.

The questionnaire data in this area is interesting in providing results that support the assumption that those workplaces operating with a product differentiation approach are higher performers and operate with higher levels of HR practices (Appelbaum et al., 2000). Measuring strategy is particularly challenging, (Appelbaum et al., 2000; Wright and Sherman, 1997; Wright and Gardner, 2000) and unpicking the nature of this relationship cannot be achieved through the questionnaire. The case data, however, can be used to identify detailed information as the nature of the complex relationships involved in such an approach. Each of the cases has an established HR system and is recognised as operating with acceptable performance index scores. The *presence* of a differentiation and / or quality manufacturing approach to production within the cases is the extent to which business / operational strategy has been measured. This understanding has been achieved through a review of data such as quality documents, quality notices and interviews, rather than a review of strategic papers, by way of identifying what happens in the workplaces rather than what is prescribed.

¹⁹ Under what circumstances are high commitment policies and practices successful in achieving business performance improvements through competitive advantage in medium sized engineering workplaces?

8.4.1 Differentiating quality for competitive advantage – a review of the case evidence

8.4.1.1 Huck (UK) and LAP

In terms of the role that ‘differentiation’ plays in the HR-performance debate, both Huck (UK) and LAP Electrical operate within niche markets where they experience continual demands for new and better quality, (LAP Electrical) or more innovative (Huck), products from their customers.

Within Huck (UK) the Quality Manager provided documentation as to the ethos and strategy of the workplace. This documentation and the quality video that each new employee watches displayed a strong commitment to quality both at the strategic and operational level. This manager commented: ‘We have a Company Quality statement. When someone first comes to the company they get to learn about internal customers. They have an induction and they watch the quality video ‘The customer is always Dwight’. The impact on the HR system of the adoption of a differentiation approach to production, in response to customer demands within Huck (UK), includes extensive training, the use of off-line teams for improved quality and efficiencies that leads to enhanced autonomy and involvement in decision making. Seeking to be responsive to customer demands has been recognised as being a better predictor of performance than the presence of a differentiation strategy (Arthur, 1992; Youndt et al., 1996; MacDuffie, 1995).

In LAP Electrical, the quality of product attracts customers, with aspects of product quality dealt with through team meetings. LAP Electrical operates with a pilot ‘self-directed team’ in which employees engage in job rotation, which is described by a number of authors as being critical in the prediction of performance (Arthur, 1992; Youndt et al., 1996; MacDuffie, 1995).

8.4.1.2 SHL and DAP

In SHL and DAP, there is a heavy reliance on a small number of dominant customers who have a particular focus on the quality of product, rather than variety. The impact of this customer relationship is that there is little variety in the type of work available. At DAP, one employee commented: ‘You’d be very lucky if you got a new job. It’s very mundane work here – it’s propellers. Nothing new really new comes up. When a new product comes up it’s a challenge.’ In SHL an employee stated ‘We are number one supplier to CAT – we get that due to our reliability. That’s how critical our CAT area is.’ In these environments quality standards and the relationship with the customer help determine the shape of the work force.

Within DAP one manager summed up the role of quality by suggesting that ‘without high quality in the propeller market people will die’. The management of quality is conducted through continuous improvement teams and Kaizen, also corrective action teams, where managers involve people who do the jobs to resolve the issues. As part of the commitment to quality, in DAP: ‘on a monthly basis we measure employee satisfaction and quality’.

Like DAP, in SHL quality issues dominate due to the nature of the relationship with a single key customer – Caterpillar. The workplace operates with a ‘quality manual’ that provide guidance for those on the shop floor including ISO 9001. Quality and defect levels are ‘controlled by Caterpillar’. The Quality Manager stated: ‘We get regular reports from Caterpillar - like the value of rejects and the returned parts. You’ve got to be a high quality supplier. Competition used to be based on cost, now it’s more to do with quality.’ For the employee quality is regarded as a positive element of the process, with individuals able to stamp their product as a statement of quality.

The case data modestly identifies differentiation and quality approaches to engineering as predictors of high levels of HR and performance. However, the data suggests that it is challenging and potentially naïve to suggest concrete linear relationships between HR

and performance without an understanding of the nature of the relationship (Wright and Gardner, 2000). This notable lack of cause and effect is further emphasised by discussions in previous chapters suggesting that the high-HR group are dissatisfied with their levels of performance. Such an inverted association highlights the complexity of the relationship and emphasises the difficulties in relying upon subjective judgements when measuring performance. As such, this data refutes the implicit performance theory (Wright and Gardner, 2000).

What is clear from the research is that the manufacturing approach adopted within a workplace has a critical role in many of the subsequent HR operations including levels of involvement and training. In this research the cases operated a differentiation / quality approach to manufacturing, adopting responsive behaviours to demands for higher quality and using appropriate HR practices to meet these challenges.

8.4.2 Approaching the adoption of HR systems for competitive advantage

The Contingency approach proposes that the success of a workplace's HR practices depends on a degree of consistency with other organisational factors. Strategic alignment between HR and business / manufacturing approaches is one of the central factors in this approach (Schuler and Jackson, 1987; Osterman, 1994; Arthur, 1992; Appelbaum et al., 2000). What the case study evidence shows is that even in the absence of data, of a written HR or business strategy, there appears to be conscious planning around the relationship between the needs of the customer, the manufacturing approach adopted and the supporting HR policies and practices. This evidence lends support to the idea that HR policies and practices do not work independently of organisational factors for organisational improvements, but are part of a larger system of processes (MacDuffie, 1995). The evidence also suggests that the four cases operate informal, evolutionary approaches to the adoption and implementation of HR practices, in accordance with the overall business objectives of the workplace.

This evidence is, however, only one element of a possible range of workplace factors that may influence the way policies and practices are adopted. Understanding the contribution of strategy provides little in understanding *how* HR policies and practices interact with one another, and with other organisational variables, to enhance performance. Uncovering the factors that may influence the uptake of policies and practices seeks to further understand the impact of the approaches to adopting HR.

8.5 Introducing and managing HR for competitive advantage

This section addresses the largely unchallenged element of the HR-performance debate: to what extent is the process of introduction and management of high commitment policies and practices critical to their effectiveness? This section seeks to review the individual cases in the light of the analysis so far, in order to establish how HR policies and practices are introduced into engineering firms and how they are best managed to make them effective in the contribution to performance improvements.

8.5.1 Huck (UK)

In reviewing the recruitment and selection processes within the four cases, it was revealed that the make up of the work forces differ quite dramatically. Within Huck (UK) there is significant investment in recruiting the best employee for the job. Clear objectives around the need for team players, individuals with good conflict resolution skills and those with commitment to continuing personal development are integrated with the selection criteria. In aligning the workplace needs and the selection process ensures that Huck (UK) employs those individuals who will balance the team and be committed to developing their skills. Consequences of this sophisticated level of recruitment and selection include low employee turnover and absence.

With the knowledge that their employees operate with a particular level of self-awareness, the management team have successfully devolved responsibility to employees, with particular emphasis on the team leader role. Employees are expected to guide their own development, influence production processes and improve output, which many find challenging and at times intimidating. In taking this approach, Huck (UK) has been able to become lean, releasing itself of the middle management layer, operating JIT processes and streamlining all waste through Kaizen.

Any change, such as the development of a new process or product, is conducted with the involvement of the employees. Formal processes such as Kaizen support the, already developed, work force in generating improvements, such as saving production time, and the reduction of waste. The activities of the workplace are the product of the employees' input with outputs including secured ownership, low resistance, and high commitment. The managing director, with a sophisticated human relations style of management practice, leads the workplace and drives this culture of involvement and responsibility. The adoption of 'leaders' rather than managers displays a commitment to the autonomous team approach, where investment in human capital is common at all levels. As a member of the senior team stated: 'We want a highly motivated and skilled workforce. The soft and hard skills need to be developed'.

The absence of a trade union is managed through the generous package of benefits. Huck (UK) employees are rewarded highly, with pay above the average for the area. Employees are also rewarded on their contribution as a team where 'productivity targets are set by the customers'. A member of the administration team commented 'We get a bonus on our pay related to profit. This year we will get 10%'. For a team member from the shop floor the profit-bonus scheme is not attractive stating that 'We've not had a pay increase because we've not been hitting our targets. We need to improve, and in April we'll find out if anyone has to go. We feel threatened'. For the workplace, the package of success involves both production and human elements, where the competencies of each individual employee are measured and valued.

8.5.2 LAP Electrical

Within LAP Electrical, similar levels of importance found in Huck are placed on the recruitment and selection of employees. The emphasis here is to gain trusting, committed employees who are dedicated to getting the work done, and who enjoy the experience in the process. The informal mechanisms adopted during the selection process are successful in providing a stable work force, with zero turnover.

The process of assembling car lighting systems does not require highly skilled employees, therefore, training for team leaders is dedicated to developing people management skills. Much of the activity at LAP Electrical is directed at maintaining positive relationships the consequence of which is that employees believe that management are 'fair' in terms of pay, and 'open', where 'We are all like one big happy family'.

This approach to the management of employment relations is coherent with a style akin to sophisticated consultation and modern paternalism, where LAP Electrical employees are grateful for their employment including part time hours. While the established work force may be interested in the work, they are 'here for the atmosphere and the people'. This is reflected in their overall lack of interest in finding out about the state of the business, as one of the team leaders commented, 'It's not in their nature'.

The role of the trade union is largely administrative and acts as a vehicle for communications. The 'voice of the employee' can also be heard through other channels with team meetings offering the opportunity to air problems and make improvements.

The Managing Director takes an active role in developing aspects of his workplace. Seeking guidance from an external Mentor, he is prepared to challenge himself and the senior management team with tools such as psychological tests. There is a strong sense

of trust between the MD and his management team; a hand picked group including family members. This trust extends through out the workplace, with each employee understanding their role and, therefore, never challenging the system.

8.5.3 Dowty Aerospace Propellers

As a workplace that has undergone a complete Business Process Re-engineering programme, DAP is clearly focussed on production and quality issues. With significant changes occurring within this workplace activities including redundancies, the management of change and the management of morale appear to have been very successful. Operating in an environment with long-serving employees and limited product variation, the management of the BPR process has been established through high levels of employee involvement, clear organisational goals and open communications.

The development of the team leader role, as a way of engaging with the shop floor, has proved to be effective. Other involvement processes have focused employee attention on their direct work environment, where positive and achievable goals can be recognised. The employee influence on production processes has been directed through Kaizen leading to increased employee ownership and confidence that the workplace is moving forward. Projects such as Kaizen bring the goals of the organisation to the level of the employee providing him with the tools to make a difference. Such learning is reflected in other areas of the workplace including personal development through formal training.

The project is driven by a strong leader, known for his ability to improve workplace performance. Testament to the openness of the approach to restructuring, the trade union – employer relationship is good, with officials valuing the level of involvement.

8.5.4 Sterling Hydraulics Limited

A well-established workplace, SHL is driven by a single leading customer, who dictates the quality measures. Working to this level of quality requires skilled and semi-skilled employees that SHL dedicates training resources to, as the local supply of labour is limited in such skilled labour. For those working at SHL there is a feeling that 'this is the best company around here', and 'Until you've been to other companies you don't know how good it is here'. Also, employees are clear about the management-employee relationship with one shop floor employees stating that 'They [management] do look after people. The more you do the more they ask you to do. You can't do enough for a good manager.'

The evidence suggests, however, that overall, the shop floor do not believe that SHL has good management, and for many employees the relationship between 'them and us' remains tense. These tensions lie around management attitudes towards change, these same attitudes that the MD highlights as requiring some change at the shop floor level. As one employee stated 'You make one change and then another comes. We can see the ripple. A change in attitude is a mental process for managers'. The management team appears not to engage in such mental processes, according to the employees: 'The top and the bottom understands the future direction. The one's in the middle don't understand, they are unprofessional', and 'We've got very English management with Victorian attitudes'.

One employee attributes the lack of managerial quality to the following 'None of them have come from the shop floor. They don't need to know how to do the job, they need to know how to man-manage'. One of the mechanisms for shoring up management concerns about the nature of the employment relationship is by maintaining a relationship with the trade union bodies. In doing so distance is maintained between employees and management, as exposed by a comment from the shop floor 'The trade union ... it's all private between them and management'.

The impact that this collaboration has on the relations within in the workplace is to reduce the levels of trust. Communication within the workplace remains a sensitive and problematic issue. In contrast to the levels of employee involvement and autonomy experienced in the other cases, SHL employees appear to be dis-empowered: 'The Sterling way is that if they keep moaning for long enough it'll be replaced with something else.' According to the employees management consistently fail to listen even where the trade unions are used. Representative of this was the adoption of the attitude survey where management '... were very selective. They picked the yes men. They picked those they know they can trust'. Unlike in Huck (UK) where trust is used as a positive attribute of the employment relationship in SHL it is used in the negative. One manager commented 'We have a video [camera] to see what happens in the cells. Employees say 'you've been watching us to see if we're not working''.

Poor communications and weak trust have a wider impact in the workplace, in the perceptions of reward and recognition. A shop floor employee commented that 'You come up with suggestions but they are put on the back burner. Thank-you is the least reward used. Pay rises are used', suggesting that HR practices that are introduced without a supportive culture are misconstrued and can be damaging to existing relationships.

Other employees suggest that management need to influence the 'them and us' approach within SHL 'There's a feeling of 'I'm the governor and you're the worker. They need to get involved more'. The consequences of this approach to people management are far reaching with employees commenting on the success of the workplace in the light of the management style. One of the shop floor employees suggested that 'some people are bitter' about the way management engage with employees and that 'The company could be more successful: like breaking down barriers so that people can be interested and responsible'.

It becomes difficult to know whether the relationship between management and employees is as strained as it appears, with employees *perceptions* of the relationship dictating the data. However, with comments including ‘They seem to trample on enthusiasm’ and a belief that there is no trust from management to the employees it is possible to suggest that adversarial employment relations dominate the culture of SHL.

8.6 HR processes in practice: a review of the Universalistic, Contingency and Configurational approaches

In the final section of this chapter, the case evidence is used in further understanding the concepts of Universalistic, Contingency and Configurational approaches to adopting HR. Each case presents a unique insight into why HR activities are introduced and the way they are managed. Huck (UK) is a strong model for identifying ‘best approaches’ for the development of a comprehensive HR system, set within a supportive environment. SHL offers interesting data in identifying the role of management in making HR activities work effectively, and what can occur when the management style and HR policies and practices are inconsistent. Each case is, therefore, distinctive in its presentation of how HR practices form an integral part of the success of the business.

8.6.1 Universal best practice

Evidence from the cases, discussed earlier in this chapter, provides some evidence that commonality exists in the adoption of HR policies and practices under a set of *best principles* (Figure 8.2). There does not exist, however, a comprehensive list of policies and practices that are present in all of the cases, and at best each case operates with a number of practices that exist within the generic categories²⁰.

²⁰ careful recruitment and selection (traits and competencies) flexible job design and team-working significant levels of training and learning extensive use of communication system employee involvement in decision making processes with responsibility performance appraisal linked to reward systems

Through an analysis of the cases it has become evident that the list of HR policies and practices investigated are not present within all of the cases. For example Huck (UK) and DAP engage in continuous improvement processes through Kaizen that encourage the adoption of off-line team working. Levels of training vary significantly between cases, with Huck (UK), LAP Electrical and DAP employees suggesting that the levels are 'appropriate'. LAP Electrical and SHL ensure that a percentage of the work force move between jobs regularly, and communication systems are restricted to the formal trade union negotiations in SHL.

It is possible to suggest that there are underlying HR principles that are applicable in the majority of situations that follow the band of practices and policies mentioned here. However, the evidence does not support the Universalistic approach, where it suggests that particular HR policies and practices can be adopted in isolation of all other organisational factors. The discussions about SHL highlight that the adoption of HR policies and practices, such as suggestion schemes, are best conducted in a 'supportive culture', and the following sections seek to unravel what constitutes such a culture.

8.6.2 Strategic contingencies

The Contingency approach to the adoption of HR for performance improvements is based on the alignment systems of HR practices with the business / manufacturing strategy (Arthur, 1992; Youndt et al., 1996). This approach proposes close affiliations between the needs of the business in terms of products and the role that employees can play in achieving these goals - in turn the products are supported by aspects such as design and marketing.

While there are various formal descriptions and approaches to strategy (Whittingham, 1992) what is recognised in the cases is an approach that appears to be informal and flexible with evidence of processes and plans (Appelbaum et al., 2000). Case based information on the contribution that an HR strategy makes to the adoption of HR

policies and practices emerges from more general discussions of strong philosophies of learning (DAP), self-motivation and development (Huck, UK), and skills-led team work (LAP Electrical). Such philosophies are 'conscious' within the cases, and imply a degree of intended planning. It may be suggested, therefore, that the cases operate with HR plans (strategies) that contribute to the business needs.

The case evidence also provides information as to other factors within the Contingency debate that have been raised in earlier discussions. The relationship between the levels of operating technology and employees skills shows that that an interdependence exists, and as such the variables should not be considered independently of one another (Arthur, 1992; Osterman, 1994; Appelbaum et al., 2000). Similarly the relationship that a personnel / HR specialist has within the HR system requires further consideration to investigate what the nature of the role and contribution is. These contingent elements of the workplace come through in the research as factors that require further work, and highlight the complexity of the relationships between HR policies, practices and systems and the wider organisation.

Jackson et al. (1989; cited in Delery and Doty, 1996) suggest that, in practice, it is the behaviour of the employee that determines the implementation of the business strategy. The authors propose that the workplace ought to develop HR practices that produce employee behaviour which reinforce the strategy. The following discussion is aimed at unpicking the contribution of the employee within the HR system through HR policies and practices.

8.6.3 Configuring HR

In the following review consideration of the HR systems adopted by the cases aims to explore how the policies and practices influence the behaviours of employees and what the role of management is in the developing a cohesive system. This analysis will the explore concepts including trust and leadership in mediating employee behaviours.

The recruitment of staff, particularly within Huck (UK) and LAP Electrical, is conducted with significant planning, and is aimed at meeting the needs of the workplace (Arthur, 1992). Within Huck (UK), individuals are recruited for their specific characteristics in terms of how they will balance out a team and whether they are prepared to engage in continuous professional development (CPD). Senior management at Huck (UK) and LAP Electrical, in planning the future of the business, successfully identify the characteristics of the work force and recruit accordingly.

Training activities within the cases are implemented at various levels and for various purposes. Not only is training used as a way of attracting employees into the workplace (Huck UK), but also for the employer it helps to retain the skills within the work force (SHL). Employee recruitment and retention is facilitated through the commitment of resources to training in Huck (UK) and LAP Electrical. In SHL, the commitment to training is overshadowed by local competition which attracts trained labour away. While a useful tool in attracting new employees, training is also an important element of the HR system for existing employees for whom training is identified through the appraisal process.

Focusing on the business needs in the cases, training activities are also adopted for the effective development of team working (Huck UK, LAP Electrical, DAP). Team working appears as a flexible variable in the development of the HR system with the cases mainly operating teams for off-line continuous improvement (Huck, DAP), and less emphasis on multi-skilled teams (although there is some experience of this in LAP Electrical and SHL). Off-line teams are used in Huck (UK) and DAP to develop new ideas and encourage employees to integrate with employees from other functions of the business to make business improvements. In DAP and Huck (UK) there is evidence of significant investment (financial and time) from management in adopting Kaizen workshops to aid the continuous improvement process. Such investment results in a broadening in the understanding of the business by the employees, a development of the

concept of the internal customer for improved quality (Huck, UK) and newly developed skills which enhance the business flexibility, responsiveness and future opportunities with customer demands (Huck UK, DAP).

The case evidence shows that multi-skilled teams occur where the work is monotonous and repetitive, and where there is the opportunity for employees to become bored and under-productive. In these cases, (LAP Electrical, SHL) teams are used to improve the variety of work and reduce scrap. The impact on employees is that they enjoy the variety of work and stay alert (LAP Electrical).

Critical to the process of introducing HR policies and practices within the system is effective communication between management and employees. Communication has a particular role in the involvement of employees in decision making. Effective communications can improve the reduction of status barriers and improve the opportunities for the development of trust in the employment relationship (Huck UK, DAP and LAP Electrical). Where the negotiation and communication of change excludes employees, or is perceived by the employees to exclude them, the results include a lack of trust and commitment from the employees (SHL). Such disadvantages, around trust, may hinder the acceptance and adoption of change.

The concept of trust emerges from within the cases. In Huck, LAP Electrical and DAP there are high levels of trust between employees and management. In Huck (UK), the significant levels of trust established between management and employees are created through a variety of actions, most of which demonstrate reduction in status barriers and heightened autonomy for employees. The range of activities includes employee responsibility for locking up the site, the adoption of a company car policy that enables any member of the workplace to use a car when appropriate through to budget control for team leaders, and production goal setting with employee input. These approaches, to running the business, provide employees with the opportunity to engage more fully, and for managers to have the opportunity to dedicate time to other developments such as

Kaisen processes. The opportunity for employees to be involved in enhancing the reciprocation of trust to management.

The MD facilitates the development of much of this trust through strong leadership. He provides a stable environment, in terms of continuity of culture, where development and change is encouraged. It is the MD who advocates and supports a barrier free workplace, where status differentials are non-existent, and managers are encouraged to lead rather than be led. In this environment the 'leader' shows success in establishing a clear vision and engendering respect from employees (Robbins, 1987).

Within LAP Electrical, employees are loyal to the MD who is recognised as a key figure: one who is dedicated to making the company a success, one who is approachable, and someone who is greatly respected by employees. Employees also believe that senior management work hard at getting orders to ensure the success of the business. LAP Electrical employees consequently work hard to meet the commitment they see in management. Open communications are particularly effective in developing a culture of 'no secrets', enhancing trust between management and employees.

In the face of redundancies, and to aid organisational survival, employees at DAP believe in management's commitment to making this work. Such faith and trust in the actions of management is enhanced through employee involvement in continuous improvement teams, and open communications with team leaders and trade union representatives. Workers who have witnessed colleagues being made redundant remain loyal and committed to improving the outlook in the business. Much of this development of a culture of commitment has been achieved through the introduction of a new MD. This MD is seen as the instrumental leader of the culture shift towards involvement (Graves, 1986; p.77; cited in Blyton and Turnbull, 1992).

In SHL, the absence of trust is compounded by the existence of distrust. Consequences of this distrust include suspicion about the new MD and doubts in management's ability

to deliver and to manage effectively. While employees feel that SHL is the best company in which to work, this reflects their view of the relative status of pay in the local area rather than a commitment to SHL.

Within three of the cases²¹ it is the Managing Director or the ‘leader’ who has the capability to influence employees, and to both stabilize and shift the culture. The organisational leaders in these cases also engage in ‘the creation of a vision about a desired future state which seeks to enmesh all members of an organisation in its net’ (Bryman, 1986; p.6). These leaders are successful in their ability to attract respect, develop employee commitment and a sense of trust. They display a high level of dedication to the development of HR activities within an HR system that is focused on outcomes that are beneficial for the individual and the workplace. The causal nature of this dedication and commitment to organisational performance is ambiguous if not unknown and, as such, reflects an evolutionary view of the role of complex and delicate interactions and relationships that may lead to sustainable competitive advantage.

The introduction of HR practices is assisted by the effective management of a comprehensive set of HR practices, that are related to the organisational needs and the demography of the work force. The management of the HR system requires, of management, an acute awareness as to the potential within the work force, and an understanding as to how to unlock its potential. Such knowledge is developed over significant periods of time, and is subject to variation as the needs of the work force and organisational change.

8.7 Conclusions

From the case data, it is clear that differences exist between the demography of each workplace and the work forces, the contextualising factors such as trade unions, the HR

²¹ Huck (UK), LAP Electrical and DAP

systems and the management approaches. Accepting all of these differences exist in a small selection of workplaces that adopt high numbers of HR policies and practices suggests that the propositions within the Configurational approach are well supported. Recognition has already been given to the Universalistic and Contingency approaches to the adoption of HR and performance. However, drawing all of the elements of the research together presents a comprehensive understanding that contingencies, idiosyncrasies and commonalities exist for the adoption of HR for performance.

What the case evidence indicates is that the investigation into the contextualisation of policies and practices does not aid the understanding as to how and why such HR activities receive attention within workplaces. The context of HR policies and practices may facilitate the development of a supportive environment in which their introduction is eased. For example, the Greenfield concept of developing new cultures through a new site and new employees is seen in DAP, where the effect of moving sites established an open communication approach that improved employees attitudes evident even eight years on. The issue of 'culture' is, however, a significant literature that is not sought out here, but links to concepts of management style, loyalty, commitment and trust discussed within this work.

From the cases there are influences that can be identified as factors that require further consideration in the research of HR system management. The influence of the customer on the adoption of quality initiatives and HR policies and practices is an area that has received little attention in previous research, with some exceptions (Beaumont et al., 1996; Kinnie et al., 1999). The role of the customer, within the cases, cannot be underestimated. The quality control issues within SHL, LAP Electrical and DAP are strongly directed by their customers, influencing quality measures with subsequent impact on employees through accountability and responsibility. Within Huck (UK) the emphasis rests on developing a close relationship for the improvement of product innovation, leading to processes such as Kan Ban, with increased need for employee knowledge and responsibility. For workplaces engaged in supplier-customer relations

understanding the nature of the relationship, and being active in that relationship, may aid the development of a HR system that closely interacts with the quality system for mutual support and product -performance improvements (MacDuffie, 1995).

Levels of organisational technology provide some context in which HR policies and practices are introduced. In Huck (UK), DAP and LAP Electrical there is evidence to show that management understand the influence of their technology on the needs of the work force, with subsequent impact on the tailoring of the recruitment and selection process, training, and involvement programmes. In SHL, attention was given to the development of cellular production as a response to what peer companies were doing. Technology can provide opportunities for employees to develop skills and to contribute to other elements of the business through job rotation (LAP Electrical).

A further opportunity in developing levels of employee involvement include the use of the trade union in supporting the introduction of policies and practices. Trade union representatives at the team leader level were evident, where trade unions were present in the cases (LAP Electrical, DAP and SHL). In each of these workplaces, the relationship between management and the trade unions was cooperative. In DAP and LAP Electrical there was evidence to suggest that the trade union had been active in the development of the HR system.

In concluding the contextualisation of the HR system, it appears that the cases have not been restricted in the development of effective HR systems by their status, size or the absence of a personnel specialist. The focus within the workplaces has been on the development of HR plans, linked to the needs of the customer facilitated through a thorough understanding of the work force.

Linking these HR plans and systems to the wider business strategy is evident in the cases from the integration of customer needs in the planning and execution of work. In all of the cases, there was a strong emphasis on quality for differentiation (Piore and Sabel,

1984), whether dominated by a single customer or not. The requirement for increased variety, speed and quality of goods from customers has led each of the cases to adapt their organisational tasks and HR approach (Appelbaum et al., 2000; Dunlop and Weil, 1996). Changes such as Kaisen, seen in Huck (UK) and DAP, the attainment of ISO 9001 in SHL, and the adoption of TQM in LAP Electrical, reflect differing approaches to the development of the product and the work force to influencing the direction of the business (MacDuffie, 1995; Arthur, 1992; Cutcher-Gershenfeld, 1991).

This evidence lends support to the view of manufacturing strategy identified by Garvin (1993; cited in Youndt et al., 1996). Garvin proposes that there are three manufacturing approaches including cost, quality and flexibility. The 'quality' approach is a reflection of the differentiation strategy, as described by Arthur (1992), with the driving force of a quality strategy being the desire to improve the manufacturing process constantly, resulting in an increase in the reliability of the product and customer satisfaction (Youndt, 1996, p.843). Greater emphasis is placed on knowledge work, and employees have a higher degree of input and influence over the production process. Manufacturing and HR activities central to the quality strategy include TQM, skill acquisition and development. The actions within the cases is consistent with an approach that focuses on quality, giving greater support to the Contingency approach.

Emerging from the case data are clear contributions in understanding how HR systems are developed in engineering workplaces. In reviewing the evidence of how the systems are implemented and managed, concepts such as trust, leadership, commitment, and loyalty appear as fundamental elements in the process. While differences exist between the cases, there are common themes in the types of HR approaches adopted and the way that these interact with the strategic manufacturing goals of quality and differentiation. In taking this information forward, the next chapter considers the evidence for the development of a model of HR systems and performance, and the contribution that this gives to the understanding of the concepts of path dependency and causal ambiguity.

9 Managing HR systems for competitive advantage

9.1 Introduction

In previous chapters, consideration has been given to the current thinking and empirical evidence in the area of human resource policies and practices and performance. There has also been the presentation of information resulting from this research work in the form of questionnaire data from engineering workplaces in the UK (n=256), and the in-depth analysis of four cases. What this chapter seeks to do is to briefly review the existing and current data in order to reflect upon the conclusions that are possible at this stage. In doing so an interesting contrast of the questionnaire data with the case data will be developed by way of highlighting the particular strength of this study through the cases. This abridged version of the research data offers a reminder of what the key issues have been throughout this project. Following this empirical update is the presentation of an emerging model of HR systems, that offers significant insights into the roles and contributions that HR policies and practices, employees, and managers play in enhancing competitive advantage. As part of this understanding, the concepts of path dependency and causal ambiguity are used to explore the nature of these contributions.

9.2 Reviewing the evidence

At the beginning of this research project consideration was given to the evidence supporting the proposition that people management can lead to performance improvements (Appelbaum et al., 2000; Thompson, 2000). As part the review of the literature it was recognised that there are two key manufacturing approaches, those of cost-reduction, and differentiation. Each of these approaches has an assumed relationship with an HR strategy: within a cost-reduction approach to manufacturing

employees are managed through a system of control activities, and under a differentiation approach a commitment-orientated HR system is preferred (Arthur, 1992). The focus in the literature over the last twenty years, in terms of manufacturing and people management approaches, has been on product differentiation and employee commitment (Walton, 1984; Osterman, 1994; Youndt et al., 1996; Appelbaum et al., 2000). This can be attributed to a number of pressures including globalisation of competitive markets, technological advances, and heightened labour and social expectations with a general impact on changes in customer demands (Appelbaum et al., 2000; Dunlop and Weil, 1996). In modelling the HR approaches within a differentiation strategy to manufacturing, authors have included concepts such as product quality and employee commitment (Guest, 1997; Appelbaum et al., 2000). These concepts reflect the normative outcome measures of performance from an HR system, and are occasionally found to be set in a wider context (Beer et al., 1984). Within the commitment approach to HR, there are two strands of approach: hard and soft (Storey, 1992). It has been argued, in the review of these approaches, that the hard and soft approaches are not mutually exclusive but work most effectively together for performance improvements.

Attention within the performance element of the literature is given through the work of Wright and Gardner (2000). The authors propose that the relationship between HR and performance is complex. In seeking to identify what makes the relationship complex, they refer to the concepts of 'reverse causality' and 'implicit theory'. While these theories suggest that any measure of performance is inherently unreliable, many authors have sought to investigate the presence of a relationship through understanding how best HR policies and practices are adopted within organisations (Delery and Doty, 1996; Youndt et al., 1996; Becker and Gerhart, 1996; Osterman, 1994; Arthur, 1992; MacDuffie, 1995; Huselid, 1995). Guiding much of this work are the concepts of Universalistic, Contingency and Configurational approaches to the adoption of HR. An exploration of the Configurational approach is conducted using a model of high performing work systems (HPWS) proposed by Appelbaum et al. (2000). In this model, the issues of participation, skills, and incentives are highlighted as critical elements in the development of a system of HR policies and practices that draw performance improvements within a manufacturing setting. The authors also raise the ideas of

complementarity and substitution of policies and practices, lending weight to the principles of the Configurational approach, through the recognition of firm specific systems. What emerges out of these discussions regarding the current body of research that has been conducted into each of the three approaches is that there is a lack of diffusion of HR policies and practices into companies***** (Thompson, 2000; Dunlop and Weil, 1996; Ichniowski, 1992; Osterman, 1994; Cutcher-Gershenfeld, 1991). This lack of diffusion is explored, at the theoretical level, through the concepts of causal ambiguity and path dependency.

Focusing then on the UK manufacturing and engineering sectors the medium sized firm literature adds some further understanding as to the *context* in which HR policies and practices may be diffused. Frameworks including employer types (Goss, 1991) and market conditions (Rainnie, 1989) provide explanations as to the possible environments in which HR policies and practices may, or may not, be adopted.

Consideration is given to the processes of research in this area of HR and performance in Chapter 3, which sees the emergence of six research questions. These research questions are addressed through a self-reporting questionnaire of UK engineering workplaces all of whom were, at the time of the research, members of the Engineering Employers' Federation. The questionnaire provided a number of workplaces that were interested in being further involved in the study and four cases were selected. The unique data from these two sources has been presented in chapters five, six, seven, and eight. In summarising some of the key findings the following paragraphs draw on a blend of the data sets, emphasising the contribution of the detailed case work in studying people management processes.

An initial review of the questionnaire data from this research provides evidence in answering research question one¹, showing that medium sized engineering workplaces are adopting significant levels of HR policies and practices². Accepting

¹ Research question 1: To what extent have medium sized engineering workplaces adopted human resource policies and practices?

² see Chapter 6, Figure 6.1

that this is a self-reported incidence of HR, the data challenges many of the assumptions held within the existing literature regarding medium sized firms, that suggests that the opportunities for the adoption of HR policies and practices are limited (Curran and Stanworth, 1981).

Considering the links with performance³, there is some evidence from within the general population of the questionnaire respondents to support the assumption that high performing HR workplaces have high levels of HR⁴. This evidence is drawn from operational and personnel performance measures including absence, labour turnover, delivery-on-time and scrap rates. What these conclusions do not provide is information as to the nature of causality between HR and performance. What is more evident is that high performing workplaces with high numbers of HR policies and practices are, overall, unhappy with their levels of performance⁵. This result directly challenges the implicit theory of performance proposed by Wright and Gardner (2000), in suggesting that the link between HR and performance is not a result of the assumptions made by the questionnaire respondents. The evidence in this research, based on modest measures of performance adopted, suggests that respondents are not making an assumed link between HR policies and practices and performance.

Contextualising the introduction of HR⁶ through the questionnaire data reveals that workplace size (250+ employees), customers, technology and the presence of an HR specialist have positive relationships with the presence of HR policies and practices⁷. Analysis developed through the case interviews leads to a more detailed understanding of the nature of the relationships between these factors culminating in a figurative representation⁸ of the context of HR.

³ Research question 2: What is the contribution that human resource policies and practices make to business performance through competitive advantage in engineering workplaces?

⁴ Table 6.3, Table 6.5, Figure 6.2

⁵ Figures 6.2, Figure 6.8

⁶ Research question 3: Under what circumstances are human resource policies and practices most likely to be introduced into engineering workplaces?

⁷ Chapter 6; Table 6.13

⁸ Chapter 8; section 8.2; Figure 8.1

Having achieved an understanding that evidence exists to support some modest measures of high performance with workplaces adopting high levels of HR policies and practices, attention turns to whether it is possible to predict the circumstances under which the relationship between high HR and high performance is likely⁹. Data from the questionnaire provides some very interesting results, particularly in the light of the case interviews. In contrast to the findings of Osterman (1994), the questionnaire evidence proposes that the presence of a multi-skilled work force is *not* a predictor of high HR and performance. Ichniowski (1992) highlights that this relationship is related to 'appropriate settings', and the evidence from this research indicates that the relationship between multi-skilling and performance is set in a particularly complex context. The case evidence shows that multi-skilling is related to the relationship between technology and HR, and technology and employees skills. What the case information reveals is that multi-skilled employees are a central element of *future* business and HR planning (Huck UK, LAP Electrical and SHL), but that that delivery of such goals requires long term investment. Multi-skilling appears to be desirable, a development that that cases are interested in, but one that is not a critical feature of a successful business.

The role of the personnel specialist within engineering remains mixed. The questionnaire evidence in this research suggests that the personnel / HR specialist is related to the *presence* of HR policies and practices which provides support for the WERS 98 conclusions. However, the questionnaire evidence does not support the proposition that the presence of such a specialist is necessary for high performance. Indeed the characteristics of the cases show that the presence of a personnel specialist is *not* necessary for the adoption of HR policies and practices, or for performance, and that the high incidence of policies and practices with high performance is possible in their absence¹⁰. These data raise the question as to the

⁹ Research question 4: Under what circumstances are human resource policies and practices successful in achieving business performance improvements through competitive advantage in engineering workplaces?

¹⁰ Neither Huck (UK) nor LAP Electrical employ a specialist for personnel or HR issues.

nature of the *contribution* of the personnel specialist, with more research required as to their role in implementing or managing the HR system.

Finally, in researching the links with HR and performance, the concepts of business strategy and HR- performance were considered. The questionnaire evidence suggests that a differentiation approach (through distinctive products / services) is an important indicator in the characteristics of high HR - high performing companies (Appelbaum et al., 2000; Youndt et al., 1996; MacDuffie, 1995; Osterman, 1994).

What the questionnaire was incapable of unpicking were links between HR and performance within an environment dedicated to quality improvements.

Observations within all of the cases indicate that the concepts of quality improvements are integrated with a number of other factors including the role of the customer. The case data provides strong evidence that the adoption of quality initiatives, that are often customer driven, are closely related to HR activities such as training¹¹ and involvement in off-line teams¹².

The research then moves away from the relationships that exist between HR policies and practices, and other elements of the workplace, towards the relationships *within* the HR system¹³. The detailed case studies provide a description of the various HR practices that have been adopted and how they relate to: the needs of the business, the shape of the work force and the people management approaches¹⁴. From within Huck (UK) there is evidence of a systematic approach to the adoption of mutually supportive policies and practices, where development, autonomy, and participation are key factors in the system. Within LAP Electrical and DAP there is also data to support a considered approach to the adoption of policies and practices, where the relationships with the trade unions are beneficial in facilitating change within a supportive environment. Within SHL, it is somewhat more challenging to identify whether the adopted HR practices are part of a wider agenda, with much of the case data masked by the workplace 'culture'. Distinguishing each of the cases are

¹¹ SHL, LAP Electrical, Huck UK

¹² Huck UK, DAP

¹³ Research question 5: Do human resource policies and practices appear in combinations in medium sized engineering workplaces?

¹⁴ Chapter 7

different contextual issues, which are explored in the development of a model of HR systems later in this chapter.

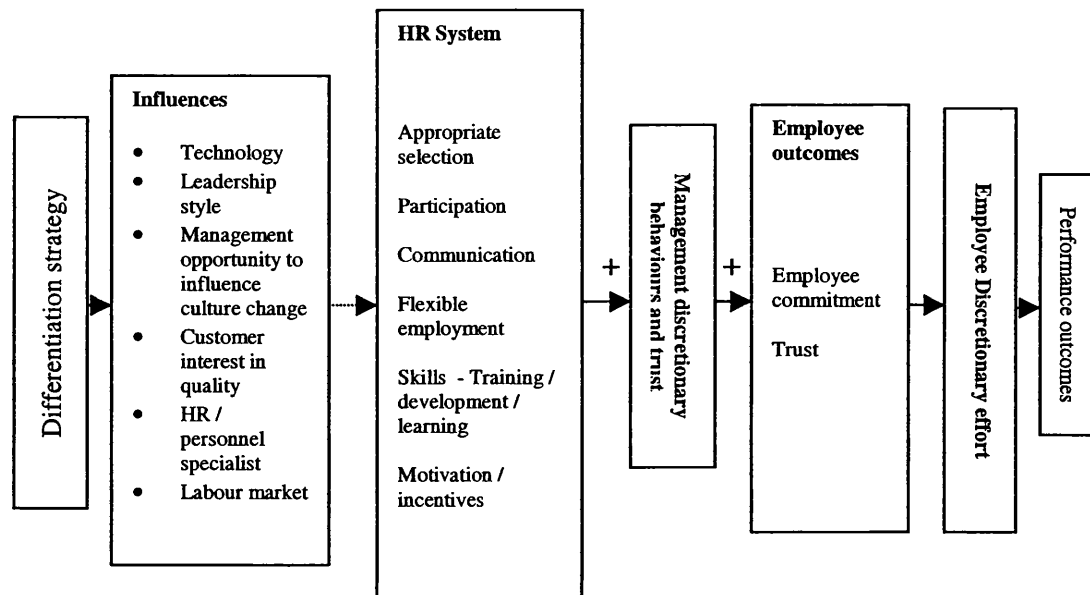
It is the issues of culture, as well as trust, leadership, loyalty and commitment, which form much of the discussion in this chapter in answering the final research question¹⁵. In chapter eight and through the case interview analysis, the emerging concepts place emphasis on the value of the processes of 'implementing and managing' the HR system. Delicate issues such as employees having trust in management emerged as fundamental factors in the effectiveness of the HR system. In Huck (UK) the concept of trust is most prevalent in the employment relationship whilst loyalty is experienced by managers from their employees in LAP Electrical and DAP. In these three engineering workplaces, managers and employees identify the role of the leader as being essential in the continuity of management style and approach to people management. It is the combination of intangible aspects of workplace well-being and contextual issues that aids a greater understanding of how HR systems are considered, implemented, and managed. Drawing together the data from the detailed cases, a model of HR systems and their context is presented, and discussed, in the next section.

9.3 Modelling HR for competitive advantage

The conclusions drawn within previous chapters are combined here to present a model of HR systems that differentiate the work force for operational success. The discussions that follow clarify the components of the model that are concerned with the development of an HR system, the management of HR practices, employee outcomes, and HR practices for the enhancement of trust and discretionary effort. During these discussions, close reference is made to the empirical work that supports the proposals.

¹⁵ Research question 6: To what extent is the process of introduction and management of human resource policies and practices critical to their effectiveness?

Figure 9.1 Differentiating HR for competitive advantage



9.3.1 Developing an HR system

The components of the HR system in Figure 9.1 result from the analysis conducted on the empirical data, collected through the questionnaire and cases, and have been explored at all levels through this work. What is presented here are those core elements of an HR system that offer the opportunity for employees to become a valued resource within a workplace, enabling their contribution to have a direct impact on the business.

The ‘appropriate’ selection of employees recognises that sophisticated tools may not be appropriate for achieving the requirements of the work force. The process of selecting employees is best conducted when it is aligned with the needs of the business: where these needs may be to satisfy quality demands from customers¹⁶ or to operate continuous improvement programmes for innovation¹⁷. Adopting

¹⁶ SHL, DAP and LAP Electrical use of ability / dexterity tests

¹⁷ Huck (UK)

appropriate selection processes enables a workplace to accommodate for the internal and external labour markets¹⁸. The 'appropriateness' of the selection process may be driven by a number of internal and external factors including operating technologies, customer demands for quality or labour markets. Evidence from within the cases has shown that these factors influence the level of substitution or complementarity of policies and practices (Appelbaum et al., 2000). Where the external labour market is scarce of skills and technology dictates semi-skilled employees the selection process ought to reflect the 'ability' of the new employee to gain new skills¹⁹. The techniques used during selection are complemented with training activities on production processes. Where skilled employees can be selected due to availability within the market, internal training can focus on Induction into the workplace, as found in Huck (UK).

For those employees working in a high commitment workplace, participation in the decisions that affect the way in which they work, which potentially affect changes in productivity levels and the direction of the business, is a critical element of the HR system (Appelbaum et al., 2000). Customers do not *directly* influence participation, however customer demand for higher quality and product improvement have an *indirect* impact on the involvement of employees in off-line teams for continuous improvement²⁰. The technology employed by a workplace may require employee involvement in understanding how to get the best out of the machine. However, it is participation that enables the unique contribution of the employee to be captured and used to make business improvements that is important in the HR system. Such participation requires managers to accept the contribution that employees make in influencing the business relying on reduced status barriers to facilitate the process (Ramsay, 1977; Arthur, 1992). Employee participation in the presence of trade unions requires an acceptance, on behalf of the unions, that cooperation and involvement with management may create security of employment. Where the

¹⁸ SHL aware of the lack of skills in the labour market, LAP Electrical, Huck (UK) recruits from a tight external labour market

¹⁹ In SHL, the selection process was not appropriate to the external labour market.

²⁰ Huck (UK) and DAP through Kaizen processes

workplace atmosphere is one of suspicion and distrust is prevalent, such involvement is unlikely to form part of the HR system²¹.

Where employees are not involved in the future direction of the workplace, or they perceive that they are hindered from contributing, the disadvantages include a breakdown of communications, weakened psychological contracts and reduced loyalty²². Where employees experience limited opportunities to participate and there are limitations in the opportunity to be heard (i.e. no employee voice), the potential for competitive 'disadvantage' is significant²³. Much of what differentiates SHL from the other three cases is the quality of the leadership, where leadership is operated at all management levels from the MD to operational team leaders. Good leadership within the workplace can facilitate a culture of openness, providing a clear message to employees that there are acceptable and unacceptable values, attitudes, and behaviours²⁴ (Thompson, 2000). What this relies upon is a cohesive management team, in which all managers are engaged with the workplace vision²⁵.

The adoption of flexible employment practices depends upon the needs of the customer, the operating technology within the workplace and the levels of skill required for the production process. Where the customer base is stable and the range of products is subject to few changes the level of differentiation reflects quality and not variety with changes in the production system reduced²⁶. In an environment like this flexibility may focus on moving employees *between* tasks, to encourage variety in work patterns. These employees become flexible and are able to respond to changes in the work force, and the volume of work. Where there are significant levels of product differentiation employees may be more skilled and work on

²¹ Within SHL employee participation was limited reflecting the culture and atmosphere

²² SHL provides a good example of the impact of not engaging in participative policies and practices, where employees believe that they ought to be involved.

²³ In SHL competitive disadvantage can be seen through the creation of a conflictual workplace atmosphere with consequences on discretionary behaviours

²⁴ This is seen particularly well in Huck (UK) LAP Electrical and DAP.

²⁵ This is most clearly seen in DAP and Huck (UK) where the operational team leaders were fully engaged in the workplace vision.

²⁶ LAP Electrical and DAP rarely alter their product range, providing product stability.

dedicated product types. These employees may be semi / skilled but less flexible due to the nature of the production process²⁷. While a multi-skilled work force could be of use in this environment the investment in employees is significantly higher than that in the stable product environment. Therefore, the investment in making semi / skilled employees multi-skilled is more costly. The commitment to these work force developments appear later in the development of the HR system²⁸. Where customers' demands are rapidly changing the benefits of a multi-skilled work force that is at ease with changing roles and products may facilitate the achievement of a flexible manufacturing strategy. Within the cases *job rotation* is the most obvious attempt of multi-skilling, and is adopted in self-directed teams²⁹. What is evident from the cases is that the nature of flexibility depends on the characteristics of the work force, the technology as a reflection of the nature of the product which is a reflection of the customer needs. Making flexible working relevant to the needs of the business is more valuable than implementing an approach that appears useful.

Part of the HR system gives recognition to the role of motivating or incentivising factors. The cases have shown that incentives differ between workplaces, where travel, friends³⁰, pay and benefits³¹ all form important elements of the package that a workplace can offer an employee. Employees within the cases showed that they perceived their pay to be good for the area, and that they believed that they worked in one of the better companies. Other motivational factors relate to HR activities including internal promotion. Within Huck (UK), internal *promotion* is achieved through horizontal moves that focus on individual skill development, identified through Personal Development Reviews, reflecting the creation of an appropriate approach within a particular setting.

²⁷ In Huck (UK), there is evidence that workers are dedicated to machines due to their skills, with a strategy of multi-skilling requiring significant investment.

²⁸ Huck (UK) employees are being developed for flexibility, however, this comes as the HR system is already sophisticated and well developed.

²⁹ LAP Electrical and SHL have single-cells in which employees rotate.

³⁰ LAP Electrical is the most clear example of the contribution of the social system contributing to a motivation to work in a workplace.

³¹ In SHL, pay was an important factor, masked by the conflictual employment relations. In Huck (UK), the package of benefits was a strong attraction to working there.

The motivation of employees through HR policies and practices is reliant, therefore, on a manager's knowledge of the work force and the needs of the business. What motivates employees to engage in activities again depends, largely, upon their own personal needs and interests. Identifying individual motivational needs may occur during the process of selection through an understating of an individual's willingness to engage in training, problem-solving, and flexible practices, or through appraisals (Bailey, 1993).

9.3.2 The management of HR practices

Although the questionnaire data presented is rather indiscriminate in the information regarding the adoption of *specific* policies and practices, the core elements of an 'HR system' have been successfully identified through the case analysis³². However, understanding the component parts of an HR system goes only part of the way to ensuring that the policies and practices operate well together. It is the introduction and management of the practices that is critical to making them work for the workplace.

Emerging from the case interviews are a number of factors that transform an arbitrary list of HR practices into a system that then has the potential to contribute to a workplace's competitive advantage. These factors include 'trust' supported by a culture of equal status, managerial acceptance of employee contributions, and 'leadership style'. These elements of the organisational system are discussed in relation to the cases, and are followed by a review of the outcomes of such approaches.

Appelbaum et al., (2000) suggest that 'Actions by managers have a strong effect on trust in organizations, and HPWS provide opportunities for trustworthy behaviour by managers' (p.45). This statement suggests that one of the roles of the HR system is to develop activities for the development of trust-orientated behaviours in which management can engage. While this may be true, the data from this research identifies the role of trust as one that is an intricate and delicate process within the

³² Comparing Chapter 6; Figure 6.7 with Chapter 8; Figure 8.2

employment relationship, which mediates the behaviours between management, employees, and the HR system.

For the HR system to be effective within a workplace, both employees and managers have to be prepared to engage in trusting behaviours. Operating with a work force of employees who trust management, in their role of securing the future business of the workplace through increased orders, is important³³. Similarly, however, there is a responsibility for managers to trust employees and to be willing to engage them in various 'value-adding' activities. Managers who believe that encouraging employee participation does not lead to deviant or destructive behaviours have the opportunity to develop an environment in which employees are free to spend their discretionary effort for the purposes of the business. Participation may be described as an antecedent for greater trusting relationship (MacDuffie, 1995). In this environment, trust operates as a bi-directional attribute that influences the quality of the employment relationship (Levine and Tyson, 1990).

A central supportive perspective, for the development of trust, is a belief in equal status or a reduction in status barriers (Arthur, 1992; Ramsay, 1977). The establishment of equal status within a workplace enhances the level of trust; where employees are recognised as providing valued contributions to the decision-making within a workplace. The reduction of status barriers may be a signal to employees that managers value the contribution of employees and are committed to taking action to facilitate employees' contributions³⁴. This *apparent* absence of hierarchy may offer managers the opportunity to engage employees more readily. To ensure that trusting relationships are established and maintained, a reduction in status barriers requires more than tokenistic offers of equality such as the 'single canteen' and 'no designated car-parking', that do not require a shift in the balance of power. Employee contributions have to be accepted and implemented if the level of trust between management and employees is to be maintained. Paying lip service to initiatives that aim to involve employees may damage the nature of the relationship and reduce the impact of the HR system.

³³ The comparison of Huck (UK) with SHL explores this

³⁴ Huck (UK) employees respond well to the reduction in status

The successes of these two elements (trust and management acceptance of employee participation) within a workplace are influenced by the approach that is adopted by the most senior members of that workplace. The development of a trusting and engaging culture within the workplace is heavily dependent upon a 'leadership' approach to management. Within each of the cases, where trust had been achieved and the relationship between management, employees, and the trade unions (where appropriate) was positive, there was a strong sense of the workplace being directed by a worthy leader³⁵. Such is the role of the leader in Huck (UK) that members of the senior teams become leaders rather than managers, engaging a culture of workplace cohesion. Where a worthy leader is lacking, through challenges and conflicts within the workplace then trust, involvement and reduced status is highly improbable³⁶. Similar to the concepts of Top Teams, as described by Thompson (2000), there is a need for the senior members of the organisation to lead the culture of high commitment or high involvement in the management of employees. However, what this research finds is that, even in a relatively flat structure, the role of the team leader / supervisor cannot be over-stated as being influential in the development of appropriate cultures³⁷. As these layers of management regularly interact with shop floor employees the opportunity to implement and manage the HR system are best achieved at this level (Lowe et al., 1997). Therefore, a key role of the 'top team' is to engage and motivate those individuals who have responsibility for the day-to-day management of the organisational culture.

While emphasis in the model (Figure 9.1), depicts leadership as being a key approach to the co-ordination of employees, the case evidence supports the role of a number of management styles, with the element of individualism playing an important role (Purcell and Ahlstrand, 1994). When managers recognise that the development of employees has benefits to the workplace the opportunity for trust, employee participation and employee discretion is increased. Reflecting a belief in the inherent value that an employee has within the success of the workplace, managers

³⁵ Huck (UK), LAP Electrical and DAP all display employees belief in the workplace leader

³⁶ SHL

³⁷ This is most obvious in Huck (UK), however, master-craftsmen in LAP Electrical and team leaders in DAP play a crucial role in the maintenance of cultures.

who engage with 'sophisticated human relations' or a 'consultative' approach to management style are more attuned to engaging in trust and commitment activities³⁸. The role of management in eliciting outcomes from employees is discussed in this next section.

9.3.3 Employee outcomes

A significant role of the mediating factors between the HR system and performance is to maintain and improve performance. The achievement of performance improvements is linked to employee commitment and in particular employee discretionary effort.

Of those workplaces, within the questionnaire population, that have high levels of HR policies and practices some 91 percent self-reported that the commitment of their employees is high. The achievement of employee commitment to the organisation provides loyalty, attachment and discretionary effort (see Appelbaum et al., 2000; p.183). Both employee loyalty and attachment may be beneficial to the workplace where it enhances the level of retention within the workplace, particularly during difficult economic times. However, there are negative consequences of high levels of loyalty and attachment where employees display complacency and fail to exert effort (Schneider, 1987).

In this study, there is evidence that employees who are committed to the workplace are also loyal³⁹. This has the potential to stabilize the workforce during times of uncertainty such as redundancies. Benefits to the workplace of these loyal employees include their willingness to engage in significant changes following restructuring and redundancies⁴⁰. Employees who stay can provide consistency, through their knowledge of products and customer relations. This requires careful

³⁸ This is seen most clearly in Huck (UK), DAP and LAP Electrical

³⁹ LAP Electrical employees are particularly loyal to the company and the senior management team. At the time of the research redundancies were rumoured, however, there was no indication of a loss of loyalty and commitment. Similarly the recent redundancies at DAP did not emerge through the interviews as having lead to negative attitudes or a loss of commitment.

⁴⁰ DAP provides evidence of this.

'leadership' to ensure that static cultures do not inhibit change⁴¹. Similarly, attachment is seen in the cases where employees are keen to stay⁴². The benefits of this form of commitment are, however, somewhat limited with the desire to stay related more to the employees security needs rather than a desire to progress the business. Successful management of the intention to stay may be facilitated through personal development and changes such as training.

It may be predicted that high loyalty and attachment leads to low absence and turnover (Mowday et al. 1982; Lincoln and Kalleberg, 1990; cited in Appelbaum et al., 2000; p.183). Labour turnover is, however, a rather blunt indicator of employee commitment with redundancies, and reorganisations accounting for turnover within two of the cases⁴³. Absence is, however, more accurate with the high HR-performance cluster exhibiting by far the lowest overall rates. Managing personnel outcomes, such as those discussed, is an important element of workplace performance.

There are various outcomes, which management may hope to achieve from managing their employees through an HR system of policies and practices. At the most basic level, managers may hope that the employee produces work that is of acceptable quality and within the appropriate time scales. However, through the adoption of the HR practices that have been discussed in this work, there is the opportunity that employees may begin to align their values and beliefs with the goals of the workplace. MacDuffie (1995) and Bailey (1992) emphasize the importance of the role of motivation in the extraction of discretionary effort. Where employees feel that their goals and values are aligned with those of the organisation, they are more likely to be motivated (ibid; Appelbaum et al., 2000). The alignment of goals, values, and feeling proud to work in a workplace enhance discretionary effort and within the cases, there was some indication that employees were motivated to work

⁴¹ Again in DAP the new MD has facilitated change through BPR, while maintaining stability

⁴² LAP Electrical and DAP employees indicated a desire to stay at their workplace, in the face of change.

⁴³ DAP and Huck (UK) have seen reductions in their work force through redundancies

hard for good managers⁴⁴. The alignment of goals between individual employees and the workplace relies upon an employee's belief that there is some benefit to doing this. For the individual employee the intrinsic benefits may include further opportunities for training, some element of employment security, or feelings of being satisfied with their work. Where an individual aligns himself or herself with the organisation, commitment to that organisation is likely to follow, leading to further discretionary activities. Discretionary effort on behalf of the employee may improve output, enhance the product quality, and ensure repeated business. Where the employee is also loyal, the profile of the workplace may be enhanced in the labour market attracting new employees, and improving retention of staff⁴⁵. In addition, employees have the potential to develop pathways of skills and knowledge that are ambiguous and offer the workplace a level of uniqueness within the market. The model shows that it is the 'effective management of people' that offers the workplace commitment and added-value through employee discretionary behaviours.

Measures of employee outcomes within the questionnaire have been discussed within previous chapters, covering issues such as absence, labour turnover, commitment, quality, scrap, and flexibility. These self-reported measures provide one perspective on the contribution that employees are making within engineering workplaces. This information, however, does not provide a wider financial picture of the workplace.

9.3.4 HR practices to enhance trust and discretionary effort

In facilitating the alignment of an employee's goals with the goals of the workplace there are a few essential HR activities that require management to engage in. Firstly, employees require frequent and accurate information regarding the direction of the workplace and changes relating to the work force. The provision of this information should be conducted in an open and visible manner. Communications, within the cases, proved to be a critical factor in creating and maintaining levels of trust, where poor or covert communications enhanced the levels of distrust⁴⁶.

⁴⁴ In Huck (UK), LAP Electrical and DAP employees were, overall, interested in the future of the workplace and were prepared to work hard for the business to succeed.

⁴⁵ This is evident in Huck (UK) where the workplace profile has led to very low turnover.

⁴⁶ As seen clearly in the relationships between employees and management in SHL.

Other HR practices adopted to engage employees with the goals of the workplace include participation in decision-making. Activities such as continuous-improvement or Kaizen workshops involve employees in understanding the needs of the business, and enable contributions to make differences in the way that things are done⁴⁷. Associated with such change is employee training. As seen in the high HR and high performance cluster from the questionnaire analysis, training at *all levels* of the workplace, and at *all stages* within the organisational life-cycle of the employee is an important part of displaying managerial trust, investment and value to employees. This development of skill, through a desire to motivate, is referenced by MacDuffie who argues (p.203) that ‘...given that any single practice may play a multifaceted role in the overall human resource system, there is no clear conceptual basis for separating practices affecting motivation from those affecting skill’.

Job rotation can reflect some level of multi-skilling for employees, which is supported by training activities and the use of flexible job descriptions. The approach encourages employees to use existing and new skills within a changing environment. The cases show that this approach requires significant investment and is part of the HR system that is usually developed within an environment of existing trust and security⁴⁸. The case evidence also supports Appelbaum et al.’s statement that firm specific skills increase attachment to the firm, and that formal education may increase the transferability of an employee into another organisation (p.184)⁴⁹. This may be counterbalanced, however, with the levels of attachment created through the established relationships⁵⁰.

⁴⁷ In Huck (UK), the Kaizen process enabled *every* employee to contribute to improving the business through a number of projects.

⁴⁸ While LAP Electrical and SHL have some levels of job rotation, this has been achieved in a small percentage of the workplace. In Huck (UK), job rotation is planned following the achievement of a comprehensive HR system, and as such reflects changes to the current system.

⁴⁹ SHL struggles with employee turnover. Employees are formally trained, however, poaching by a local competitor that is able to pay higher wages often follows this. This may reflect an incomplete HR system where training is not supported by a relevant promotional or pay system.

⁵⁰ In LAP Electrical, the team leaders are trained in generic people skills but remain attached to the company.

9.4 Reviewing the approaches to HR through path dependency and causal ambiguity

The model offers much in the way of identifying factors that influence the uptake of policies and practices within engineering workplaces. What is clear, is that there is no single approach to the adoption of policies and practices, and that the system of HR is interrelated with other workplace factors. What this information provides is a recognisable level of support for the Contingency perspective. In doing so, there is agreement with MacDuffie (1995), who states: 'HR bundles contribute most to assembly plant productivity and quality when they are integrated with *manufacturing policies* under the organisational logic of a flexible production system' (p.217). And, with Youndt et al. (1996; p.853), who argue 'maximising performance appears to depend on properly aligning HR systems with *manufacturing strategy*' (emphasis added).

What the case evidence suggests is that workplaces with high levels of performance operate with practices that work together, supporting one another and creating a comprehensive HR system for competitive advantage. These HR systems are developed in alignment with the needs of the business in terms of manufacturing approaches, customer demands and employee's skills and abilities. This supports Delery and Doty's argument that 'Configurational theorists working in SHRM must theoretically derive internally consistent configurations of HR practices, or employment systems, that maximise horizontal fit, and then link these employment systems to alternative strategic configurations to maximise vertical fit' (1996; p.809).

It is the Configurational approach to HR systems and performance that offers the most representative reflection of the adoption of HR practices for the achievement of unique competitive advantages. This approach is also the most complex, reflected in the lack of specific guiding principles for managers attempting to introduce an HR system. It is this level of complexity that helps to explain the relative lack of diffusion of practices within more general populations (Dunlop and Weil, 1996).

The following model (Figure 9.2) develops the concepts portrayed in the earlier model, and those implied within the discussion of the Configurational approach.

What this model offers is a further understanding as to the nature of the relationship

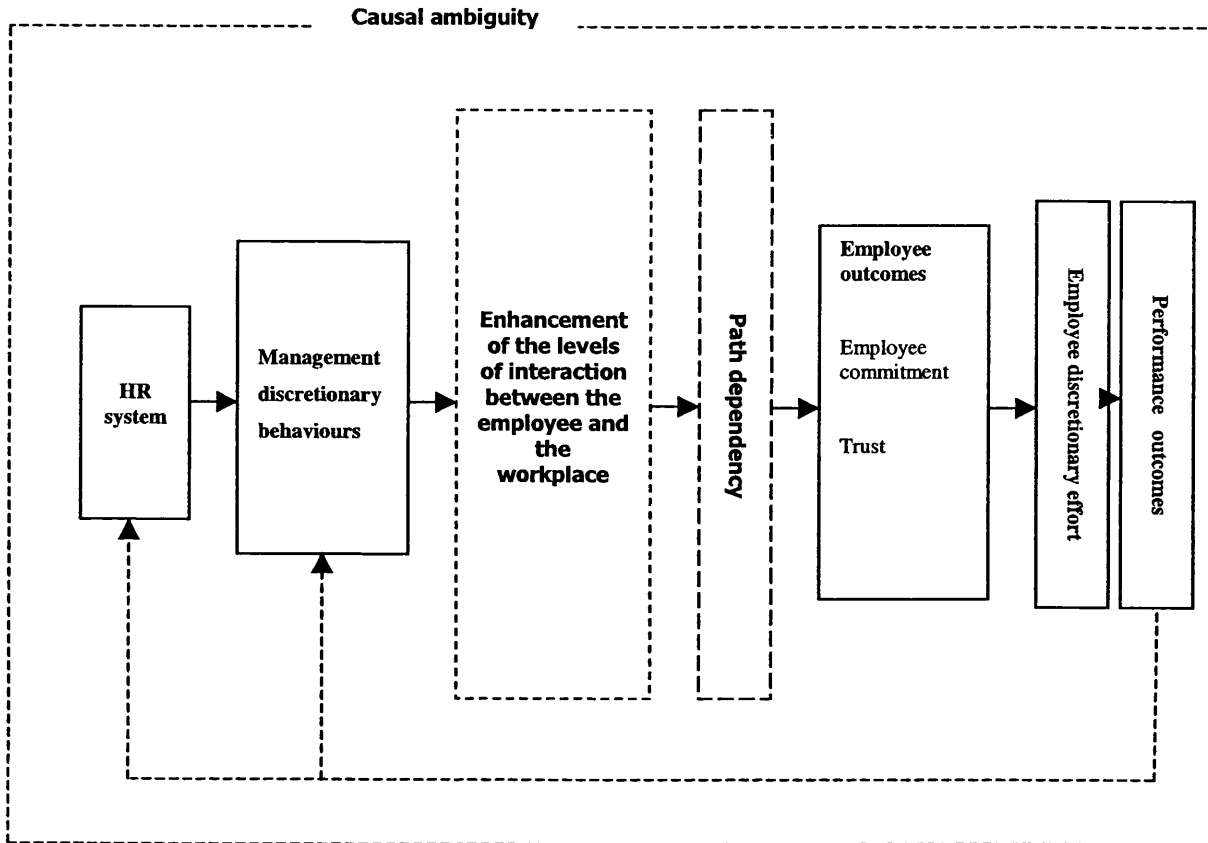
between the HR system, management behaviours and employee outcomes, leading to performance outcomes. In doing so, it directly challenges the ideas proposed by Appelbaum et al., (2000).

The model proposes that causal ambiguity and path dependency play critical roles in mediating the relationship between HR and performance through competitive advantage. As the development of an HR system enables individuals to develop skills and knowledge, the concepts of 'patterns of capability' and complex interactions are created. These interactions occur across a significant number of employees within the workplace, who are influenced by the HR system. As the system is managed and developed over time, in response to customers and technology, the changes become embedded within the culture of the workplace, creating a unique set of experiences that remain unclear. Such is the complexity of the set up that the workplace begins to develop its competitive advantage.

This advantage is achieved through the characteristics of the work force, and is independent of the discretionary activities of managers. Consequentially the HR system fulfils the attributes as described Bailey (1992) for competitive advantage: that employees ought to 'possess skills and knowledge that managers do not have'. The development and use of in-depth and workplace specific knowledge ensures that the workplace operates with organisational-specific and unique advantages.

As the concept of path dependency suggests, it is the interactions between individuals within the workplace that helps to create a level of complexity that is not easily imitated by competitors. As the levels of skill, that are brought into and the developed within the workplace, increase and knowledge is shared within the work force the creation of unique advantages are developed. Managers have the capability to enhance the distinctiveness of the work force characteristics. This requires an ongoing commitment to understanding the make-up of the work force and tailoring packages of HR practices to its development. Such commitment requires managers to be able to adapt the HR system to predict and respond to continuous change.

Figure 9.2 The development of sustainable competitive advantage



‘Causal ambiguity’ as a source of competitive advantage, within a workplace, is a reflection of a delicate web of relationships and interaction between people, and within processes. The development of knowledge and skills is central to making a workplace distinguished from others in the market. The creation of such complex interactions and relationships renders the direction of causation ambiguous. However, unique work force characteristics and idiosyncratic management approaches help to define the workplace in terms of uniqueness. Causal ambiguity, in Figure 9.2, is reported as encompassing the complete system including the HR system, enhanced interactions management and employee behaviours. Within this group of activities, it is expected that there will be a number of interactions, the directions of which will be ambiguous. These activities may include any outcomes of the system feeding back back into the HR system or influencing management’s discretionary behaviours. As such, the creation of causal ambiguities within the workplace, linked to the development to an HR system, cannot be attributed to a

single element, but is the result of a number of elements interacting. What remain important within the development of ambiguities are the discretionary behaviours of management and employees. Where employees interact with the HR system and other employees within the workplace the opportunity for 'causal ambiguity' is created as a non-conscious outcome of the adoption of HR policies and practices. Therefore, management, in adopting HR policies and practices, may be guaranteed of some enhanced performance outcomes through employees developing unique skills and knowledge, independent to management. This may be developed through training, job rotation, team working.

The development of an effective and persuasive link between HR, employees and performance is reliant on a path dependent relationship. Managers implement policies and practices that increase employee interactions with the workplace, providing opportunities for employees to become more closely aligned with that workplace. Activities such as off-line problem solving, continuous improvement groups, open communications and team briefings can aid the level of interaction and employee commitment and discretionary effort.

Appelbaum et al., (2000) suggest that the HPWS offers management the opportunity to interact and develop trust worthy behaviours. However, it is the opportunities and activities that management provide through discretionary behaviours that enables employees to interact more fully with the organisation. Therefore, practices such as off-line involvement, flexible working, and learning enhance the level at which individuals and groups of employees interact with the workplace. Where the levels of interaction are enhanced, so too are the levels of employee commitment and discretionary effort. It becomes the activity of management to enhance the distinctiveness of the work force characteristics, and in doing so creating unique organisational advantages.

The approach of management to the HR system, therefore, remains critical in the involvement of employees. It is the development of relationships, interactions, attitudes and behaviours that provide a workplace with the dynamics to become effective. Such processes may be guided by leaders and developed over varying timescales. It is management's commitment to long-term development that

facilitates workplace uniqueness. It is also management's commitment to trust employees in a 'mutually dependent relationship' that enhances output. Such a relationship is 'risky', where mutual 'reliance' becomes part of the day-to-day operations. It is this mutuality and reliance that sets the HR / commitment approach apart from the cost reduction (and control-orientated) approach to manufacturing, where there is less mystery between the elements of production.

9.5 Summary

The presentation of the model in Figures 9.1 and 9.2 develops a number of concepts that have both been the focus of this research, and have emerged from the detail of the cases. In Figure 9.1 the differentiation strategy of the workplace is recognised as an important element in determining the shape of the HR system (MacDuffie, 1995; Youndt et al., 1996). This approach to manufacturing is recognised as placing an emphasis on quality and service (Piore and Sabel, 1984). For engineering workplaces operating with a differentiation strategy to production, the role of the customer (Beaumont et al., 1996), and the levels of technology form a critical influence in the make up of the HR system (Osterman, 1994; Appelbaum et al., 2000). Translating the customer needs into an effective and responsive HR system is an area of study that requires further research.

By setting the HR system in the context of a differentiation strategy, the individual HR activities focus on selecting employees who have characteristics that are appropriate to the needs of the workplace (MacDuffie, 1995; Youndt et al., 1996) and high levels of participation to engage employees and elicit commitment and aid motivation (Appelbaum et al., 2000). Significant levels of development are used in creating a unique work force through a number of activities including training and learning, reviewed through appraisals (Delery and Doty, 1996; Arthur, 1992; MacDuffie, 1995; Cully et al., 1998). In encouraging flexibility in the work force, employees are able to offer higher levels of responsiveness to customer demands, and enhance their value through knowledge and skills about the production process (Bailey, 1992). Communication processes (Huselid, 1995; Delery and Doty, 1996), help to develop relationships within the workplace, encouraging trust between

management and employees through openness and the opportunity to contribute. Keeping staff motivated may depend upon the needs of the individuals, however, the *perception* that pay is okay, if not good for the local area, seems to be sufficient to keep staff from seeking other employment. The relationship between motivation and pay is complicated to measure and has not been sought in this work, however, the motivating factors of the social aspects of work should not be underestimated in studying how HR contributes to competitive advantage.

What emerges from the detail of the casework, and is a particular strength in this study, is the mediating impact of management's discretionary behaviours in enhancing and promoting employee commitment, effort and motivation. Management (including team leaders) have the capacity to increase the interface of the employee with the workplace through participative activities leading to employees having a greater understanding of their role and contribution to the workplace success. Involving employees in making improvements in the future of the business may be more productive where the management approach supports this activity. It is the configuration of complex relationships and interactions, through appropriately managed HR systems, which creates an intangible and original source of competitive advantage through people (Barney, 1991, 1995).

10

Conclusions and implications

10.1 Introduction

It is commonly recognised that significant changes have occurred within global markets that have created changes in the way that work is organised and people are managed (Whitfield and Poole, 1997; Appelbaum et al., 2000; Legge, 1995; Sparrow and Pettigrew, 1998). The key aim of this research was to investigate the nature of the contribution of HR policies and practices and people management processes to the competitive advantage of medium sized engineering workplaces in the UK. In doing so many of the commonly held views regarding the relationship between HR and performance have been analysed, some of which have been supported, and many others refuted. In concluding the outcomes from this research the theoretical propositions and frameworks adopted in preparation for the study will be reviewed in the light of the research evidence.

In following Appelbaum et al., (2000), Bailey (1993) and Arthur (1992) consideration has been given to the idea that differing manufacturing processes require differences in the way people work. As part of this understanding, companies that operate with high numbers of HR policies and practices have been the focus of this study, reflecting the growing interest in contemporary HR issues (Appelbaum et al., 2000; Hutchinson et al., 2001; Thompson, 2000; Wright and Gardner, 2000; Richardson and Thompson, 1999; Cully et al., 1999). The conclusions that follow are drawn from the evidence from this group of engineering workplaces.

10.2 Differentiation for competitive advantage

Recognising the role of manufacturing and engineering processes within UK and US contexts has provided fruitful environments in which studies of HR and performance have flourished (Appelbaum et al., 2000; Thompson, 2000; Osterman, 1994; Arthur, 1992). Following the work of Arthur (1992), in which he suggests that the nature of a firm's business strategy determines the make up of the HR system through alignment, modest investigations into the contribution of strategy were given in this research¹. What was successfully identified through the questionnaire evidence was support for the proposition that high performing companies with high incidence of HR policies and practices are more likely to operate with distinctive products or services (Piore and Sabel, 1984). It is this 'distinctiveness' of products or services that the workplace respondents regard as being crucial for competitive success. This data indicates that a high incidence of HR policies and practices are associated with distinctiveness in the manufacturing and engineering processes, and may be identified as a differentiation approach.

Youndt et al., (1996), Lowe et al. (1997), and MacDuffie (1995) each discuss the contribution that flexible or lean approaches to production have in the design of the manufacturing processes and the HR system. In particular, MacDuffie argues that HR systems (or bundles) contribute to the improvement of firm performance when they are integrated with manufacturing policies, under the 'organisational logic' of a flexible production system. This flexible production system, which focuses on the reduction of inventory levels and other types of 'buffers', increases the interdependences in the production process and highlights production problems (1995; p.198). Such processes require motivated, skilled and adaptable workers. In reviewing the questionnaire data around: job rotation (enabling employees to move between tasks in response to customer demands, using a number of skills);

¹ Establishing the 'alignment' of business or manufacturing strategies with the HR strategy was not possible within the questionnaire.

responsiveness to customer demands for competitive success; and the ease with which the workplace can respond rapidly to market demand through flexible employment practices, there is evidence to support the presence of a relationship between these factors and the high incidence of HR policies and practices. It may be concluded, therefore, that high performing companies with high levels of HR policies and practices are engaged in operating a differentiation approach with flexible employment practices (Whitfield and Poole, 1997). Indeed, within the cases there is evidence that suggests that the workplace's responsiveness to customer demands plays a critical role in the development of quality and HR employment processes. Within all of the cases the adoption of quality standards and some training activities were closely identified as being a response to customer needs. One of the consequences of such responsiveness has led to significant devolution of responsibility to the level of the team leaders with Huck (UK).

10.3 Planning for Strategic HR

Arthur's (1992) work, in seeking to identify the contribution that HR can make to performance outcomes argues for an alignment of strategies. Consideration of HR strategy was conducted through the cases by way of identifying processes and plans. Within the majority of the cases, there is evidence that HR plans exist. Evidence of future planning for HR activities included employee development through training, job rotation and employee involvement in continuous improvement teams. These plans, whilst not formalised in writing, presented convincing data that the management of people was part of a wider management agenda. Within Huck (UK), and DAP plans to achieve business aims – such as improved product quality or product variation – through HR practices and employees were clearly identifiable. Within LAP Electrical and SHL, the HR activities were focused on the development of self-directed teams, following experimental pilot teams on site and where training, and job rotation were essential elements of this process. The proposed consequences of the alignment of strategies is summarised by a number of authors in

terms of performance (Youndt et al., 1996; Arthur, 1992; MacDuffie, 1995) and discretionary effort (Schuler and Jackson, 1987).

In identifying clear manufacturing approaches to engineering that are focused on differentiating products and services and the achievement of manufacturing goals through HR-assisted work systems, there is a clear integration of the hard and soft models of HRM (Storey, 1992; Arthur, 1992; Delery and Doty, 1996). Within Huck (UK) the development of the work system (e.g. off line teams such as Kaisen), precedes the implementation of sophisticated skill-matrix and individualised development programmes. This evidence supports the suggestion that the soft approach is effective only when supported by the strategic framework of the hard approach (Arthur, 1992; Delery and Doty, 1995). The commitment within Huck (UK), to focus on the softer elements of HR, defends the argument of Hendry and Pettigrew (1986) that proposes that a synergistic relationship exists between the hard and soft approaches, and not one of mutual exclusivity. Although this research did not seek to identify individual systems of factory, work and HR practices (Lowe et al., 1997), the case evidence from Huck (UK), DAP and LAP Electrical supports the presence of complementary approaches to manufacturing-engineering and HR.

10.4 Challenging the HR - performance relationship

At the most simple level the assumed relationship, within the literature, suggests that HR policies and practices lead to performance improvements (Huselid, 1995; Pfeffer, 1995). Other authors propose that the 'alignment' of manufacturing strategy and HR systems is the dominant characteristics of a workplace that leads to performance improvements (Arthur, 1992; Delery and Doty (1996), Becker and Gerhart, 1996; Osterman, 1994). Finally, MacDuffie (1995), Whitfield and Poole (1997) and Appelbaum et al., (2000) represent a view that suggests that there are a number of factors which may contribute to the relationship between HR and performance such as labour markets and technology. Each of these relationships is reported to be unidirectional with an assumed causation between HR and performance. Wright and

Gardner (2000), challenging these links in proposing the theories of 'reverse causation' and 'implicit' relationships.

The questionnaire evidence provides a variety of clusters of cases, each of which operate with various numbers of HR policies and practices, and varying levels of self-reported performance. Using these modest measures, it is possible to identify two distinct groups of companies. The distinguishing factor between the two groups is their average levels of self-reported performance. Within the groups of high performing companies (clusters 1,2,3), there is a higher average of HR policies and practices than in the second group (clusters 4,5 and 6). This suggests that managers reporting high levels of HR also report high levels of performance. From this data it is not possible, however, to identify the nature of the relationship between performance and incidence of HR practices. There is no evidence, therefore, in identifying the nature of any causality in the relationship between HR and performance (Wright and Gardner, 2000).

Within the discussion of 'reverse causation', proposed by Wright and Gardner (2000), there exists the assumption that HR policies and practices are adopted to 'maintain' high levels of performance. In addition, HR practices are tools through which economic downturn is moderated. This research project has not sought to consider the direction of causation assuming, as it does, that where HR policies and practices have the capacity to 'maintain' high performance and 'moderate' economic down turn, the *nature of the contribution of people* through such practices is worth reviewing in greater depth. Conclusions as to the contributions that people make within the organisation are considered later in this piece.

The reverse causation debate remains, however, an important aspect of validating HR to those questioning its value in achieving performance improvements (Wright and Gardner, 2000). Where there is confidence that HR has the *potential* to make a valued contribution to the organisation for competitive advantage (Huselid, 1995; Pfeffer, 1996; Thompson, 2000; Delery and Doty, 1996), such validation is less

important. Whether measuring the relationship between individual HR practices and individual performance measures is reasonable, is questioned by Wright and Gardner (2000) and Gerhart (2000) who argue that the infinite possible relationships between HR approaches and elements of the measures of performance may in fact render the identification of causation improbable (p.6).

Similar challenges can be directed at the 'implicit theory' of performance, which assumes that the link between HR and performance is held only in the minds of those who wish to see it. The potential for empirical 'subject bias' to be in *favour* of a relationship brings into question the link between HR and performance. The self-reported performance data, within the questionnaire, fails to support the implicit theory. The high HR- high performance group (cluster 1) identified a *lack of satisfaction* with their overall performance, bringing into question the assumption that respondents with high levels of HR wish to see a link with performance. This data alone, while questioning the implicit theory, does not provide support for a null-hypothesis of Wright and Gardner's implicit theory. However, in considering the detailed case evidence from Huck (UK), where managers and team leaders were developing multi-skilled workers who could rotate between jobs, to strengthen their competitive advantage, there is evidence to suggest that, at the level of the workplace, HR practices *are* regarded as contributing to competitiveness. The implicit theory, therefore, encourages further consideration as to; why academic researchers presuppose a link between HR and performance; why those engaging in people management in engineering may assume the link; how the links are created, implemented, and maintained.

10.5 Implementing and managing HR systems

Having initially deliberated the assumed role of HR in the achievement of performance outcomes, consideration is given to the process of adopting HR policies and practices. The data from this work provides clear evidence in support of aspects of the Universalistic, Contingency, and Configurational approaches to adopting HR

policies and practices. These three perspectives have received varying levels of support through existing research data². Common to all of these approaches is the assumption that a link exists between HR and performance, with the approaches differing in the way in which policies and practices are adopted.

In describing the adoption of policies and practices in chapter eight, a similar set of HR principles emerges in three out of the four cases. These principles follow, overall, the grouping of generic HR activities identified by Purcell (1997). This commonality of approaches in the adoption of HR that satisfy key concepts such as employee involvement and increased autonomy, reflect a Universalistic agreement in the '*best-principles*' of system design. As such, the differences in the actual practices adopted and the extent to which these practices are adopted denies support for the '*best practice*' approach, encouraging a more complex model of HR. Such findings questions whether advocates of best practices operated under a level of misplaced loyalty to the search for a single solution. The evidence from this work suggests that research conducted under the Universalistic approach has been successful only in rejecting the principles of this perspective, encouraging a more intricate review of the processes and detail involved in research into human resources.

In identifying a complex model of HR systems, this research considered a variety of factors alleged to help determine the adoption of HR policies and practices (Frombrun et al., 1984; Dyer, 1984; Schuler and Jackson, 1987; Dunlop and Weil, 1996; Appelbaum et al., 2000; Lowe et al., 1997). Under the conceptual approach of the Contingency perspective a host of institutional and demographic issues were considered. Earlier in this chapter, questionnaire and case evidence was discussed regarding the role of aligned business, manufacturing-engineering and HR strategy

² **Universalistic:** Huselid (1995); Pfeffer (1995); Wood and Albanese (1995). **Contingency:** Arthur (1992; 1994); Dyer (1984); Youndt et al. (1996); Delery and Doty (1996); Becker and Gerhart (1996); Osterman (1994). **Configurational:** Appelbaum et al., (2000), Patterson et al. (1996); MacDuffie, 1995).

and performance. The data identified that the presence of HR plans, consistent with the aims of the business strategy, are found most readily in companies reporting high levels of HR and high performance measures. This research has provided some insight into the informal and evolutionary processes that managers adopt in their development of an HR 'strategy'. Absences of formal documents within the cases in no way reflected an absence of strategic, long-term plans for human resources, as such identifying lessons for future research processes. Such data, whilst modest in its nature, lends support to the Contingency approach, where strategic engagement is important in eliciting discretionary behaviours from employees from competitive advantage (MacDuffie, 1995; Arthur, 1992).

Accepting that strategic alignment has a role to play in the HR – performance discussion enables an opening up within the research to a variety of further investigations of HR in context. Lowe et al. (1997) have identified that significant gaps exist in understanding the internal and external contextual issues of workplace's, into which HR systems are introduced. What this research has been successful in achieving is a 'refinement' of those factors that can influence the implementation and management of HR systems. During this process of refinement, through data analysis of the questionnaire and cases, various new questions have emerged.

Consideration of the role of the personnel specialist within this research has lead to a number of interesting conclusions. The combination of questionnaire and case data shows that the adoption of HR policies and practices cannot be predicted by the presence or absence of a personnel specialist. Where a personnel specialist is present, further research is required as to their role in the implementation and / or management of policies and practices. What the case evidence strongly supports is a belief that implementing and managing HR policies and practices in the absence of a specialist has no detrimental consequences to the process. Organisations without the capacity for a specialist operate successfully with HR policies and practices, the

responsibility for which has been devolved to operational managers and team leaders³. In further uncovering the purpose of the HR specialist within engineering evidence should be sought in clarifying the level of decentralisation of the function to operational management level, with outcomes for personnel specialists and the training and development of non-specialists.

What is less interesting in the data is the impact of the size and status of the organisation on the uptake of practices. In triangulating the questionnaire and case data, there is little conclusive research evidence to suggest that these factors should be studied in any depth. It appears policies and practices can be found in engineering workplaces regardless of their size, although more research may lead to conclusions regarding the extensiveness of the use of practices. Where the size effect assumes a lack of opportunity for the adoption of policies and practices in smaller workplaces, evidence from this research firmly contests such an assumption. This evidence directly supports the work of Arthur (1992), and Osterman (1994) and challenges the wisdom of authors such as Thompson (2000) and Goss (1991). Similarly, the evidence shows that the status of an organisation cannot predict whether policies and practices will be adopted, nor does status inhibit the adoption of policies and practices. As such, the conclusions and assumptions seen in Osterman's work (1994) are unsupported.

In summarising the conclusions from the research, in chapter eight (Figure 8.1), the internal organisational factor of 'technology', and the external factor of the 'customer' are presented as persuasive elements in predicting the likely adoption of policies and practices. The relationship between technology and HR is supported through the questionnaire and case data. However, the relationships between technology, HR and customers are complicated and are not fully explored here, emerging as they did during the detailed analysis of the casework. It is not possible to draw any concrete conclusions about the nature of the interactions between all

³ This is particular to Huck (UK) and LAP

three elements, although the relationship between customers and HR, and technology and HR are more clearly explored through the cases. Particularly strong in this work, is the understanding that customers indirectly influence the uptake of policies and practices through their demands for quality. This relationship is complicated through the use of workplace specific technology, and the adoption of initiatives that may be regarded as part of a 'work system' (Lowe et al., 1997; p.784). The nature of these intra-firm relationships inhibit managers from fully understanding the links, rendering the self-reporting questionnaire an unreliable source of data in this area.

Data presented in Figure 8.1 (in Chapter 8) also highlights trade unions as having some impact on the incidence of policies and practices. Within the case analyses, the profile of the trade union is raised in influencing the processes of implementation of HR policies and practices. Unique to the case approach the data indicates that trade union organisations can be instrumental in mediating the introduction of new policies and practices, as seen in SHL (Cutcher-Gershenfeld, 1992; Arthur, 1992; Thompson, 2000). This provides strong support for Appelbaum et al.'s shrewd comment that the 'daunting challenges' of 'uncharted territory' experienced by managers in implementing high performance work systems may be aided, and initiated, by the trade unions. The evidence remains mixed, however, with Huck (UK) displaying a clear ability to introduce and manage high involvement, high performing work and HR practices in the absence of a trade union and a personnel specialist.

In contextualising the HR system further, and developing the concept of the customer, Ichniowski et al. (1996) propose that the success of policies and practices depend upon the product market and the assumed level of flexibility. Where stable markets require stable practices, flexibility may be a disadvantage, emphasising the importance of 'fit'. Osterman (1994) considers similar issues and recommends that long-term investment is necessary for innovative or flexible work practices. Understanding the nature of the product market was beyond the bounds of this research, however, each of the cases operated within a world-wide market and is

exposed to a number of competitors. Indeed, SHL is the only case out of the four that operates with a self-reported majority share in the UK and World markets. Such a dominant position may lessen the desire to innovate. What is clear is that further detailed case work in this area could be fruitful, with internal and external markets, customers and supply – chain relationships offering much in the clarification of relationships.

What the evidence from the case studies has provided here, are some in-depth considerations of issues that have been drawn from previous research, and initially raised within the questionnaire. The data shows that there *are* organisational factors which appear to be influential in the adoption of practices (technology, HR plans, trade union, personnel specialist), thus supporting the Contingency approach. In developing these issues within the debate and raising them within a model of HR (Figure 9.1, Chapter 9) this work develops, and in doing so challenges, the work of Appelbaum et al., (2000). The absence of context within Appelbaum et al.'s, model (see Figure 2.1) is a significant omission. While the evidence from this research project has not answered all queries regarding the contribution of context to the adoption of HR policies and practices, serious consideration has been given to understanding the nature of the factors.

The role of these factors, however, is far more detailed than merely determining whether a practice should be adopted or not. From within the cases, the processes of implementing and managing policies and practices emerge as essential concepts. Such processes begin to draw the attention away from the Universalistic and Contingency approaches, moving towards a more dynamic description of HR systems. As part of the discussion as to the nature of the contribution of this research in understanding the Configurational approach, such dynamic concepts will be reviewed and developed.

It has been said that HR systems are fashioned using complementary policies and practices represented in patterns or combinations (Appelbaum et al., 2000;

MacDuffie, 1995; Delery and Doty, 1996; Barney, 1995). The HR policies and practices, making up a system, may be substituted with one another, or may operate to complement other practices (Appelbaum et al., 2000). Emerging strongly from within the case research is clear evidence that a set of *HR principles* is being adopted, where tailored policies and practices are selected within the companies to fit the varying organisational variables such as technology (Huck UK; LAP Electrical) and customer needs (DAP)⁴. As HR systems operate within the cases with integrated HR policies and practices that are appropriate for the workplace, and as these systems are interacting with HR plans reflecting business needs, the evidence is compelling in the identification of directions of '*integration*'. In agreement with the comment from Delery and Doty (1996; p.809) and the work of Appelbaum et al. (2000), it is the 'horizontal' integration *within* the HR system, and the 'vertical' integration with the organisational issues, that make companies like Huck (UK) so interesting. Emphasis, within the case of Huck (UK), appears to draw the emphasis away from 'fitting' policies and practices together, suggesting a static system, but on a more dynamic and fluid assimilation of policies and practices that are appropriate to the needs of the workplace for competitive advantage. Such 'agility' is not without its problems (Becker and Gerhart, 1996) and managing the uncertainty of mobile systems can be challenging (Dyer and Shafer, 1999; cited in Hope-Hailey et al., 2002), where the uncertainties are strongly experienced at the line manager level (Huck team leaders). However, this responsiveness is consistent with a flexible approach to differentiated manufacturing approaches.

The evidence supports the Configurational approach for the adoption in HR policies and practices, where the cases have shown that the internal combinations of policies and practices act as a resource for competitive advantage (Arthur, 1992; MacDuffie, 1995; Becker and Gerhart, 1996). What emerges from the evidence, however, is a number of issues that focus on the processes of implementation and management of people with the HR system of policies and practices. In considering the work of

⁴ Particularly evident in DAP, Huck (UK) and LAP Electrical (Figure 8.2) are combinations of policies and practices that follow the principles of Purcell's work (1997).

Banker et al. (1996), Ichniowski et al. (1996) Appelbaum et al., (2000) the profile of relationships has been raised in this research, including the concepts of effective discretionary effort, trust, satisfaction, and commitment.

10.6 Managing competitive advantage

In chapter eight, following the development of an understanding about the context in which HR policies and practices are more likely to be introduced and supported, consideration was given to the policies and practices adopted within the cases. As part of the understanding as to why such policies and practices have been introduced an exploration of the process of managing the systems was analysed revealing aspects of management style (Purcell and Alhstrand, 1994). What is clear about the styles of management adopted is that for employees in Huck (UK), DAP, and LAP Electrical there was a strong sense of 'openness' and 'trust', with employees being valued.

In the absence of trade unions, Huck (UK) opts for a sophisticated human relations approach to managing employees. Sophisticated recruitment and selection is followed by internal development with horizontal career progression, appraisals, and involvement. High employee involvement and an open approach to management help to develop and retain trusting relationships between these groups, reducing the likelihood of unionisation. For DAP and LAP Electrical employees the experience is similar but within a unionised environment. The role of the trade unions within these companies is secondary to the openness towards and involvement of employees by management. Union members in DAP and LAP Electrical can be found at the level of the team leader enabling greater ease of communication between management and the shop floor. This open approach enhances the visibility of management's decisions to employees leading to perceptions of security and trust. This is a markedly different environment in which SHL employees operate, and where the trade union role is to converse closely with management making employees feel isolated. This is a strange mix of styles in SHL, suggesting that the

workplace is in the process of managing change, perhaps with some movement between management styles, such as modern paternalism to sophisticated consultation. The consequences of this approach adopted by management to employees include a lack of trust. In considering the management styles within the cases, the role that management has in developing HR systems, set within particular cultures, becomes more apparent.

The impact of the approach that management adopts towards the work force and the development of the HR system is seen in Figure 9.1 (Chapter 9). Management's discretionary behaviours in adopting leadership styles and seeking to engender trust from employees, mediate levels of employee commitment, discretionary effort, trust and motivation. The work of Appelbaum et al., (2000) has also provided unique data that identifies the role of management and the impact of this role when behaving in a manner that is perceived as trust worthy. However, the research data collected in this project has further developed the role of management by crediting managers with the opportunity to make a difference in the way that employees engage with the organisation (Figure 9.2). The role that managers have in eliciting employee commitment and discretionary effort is largely absent from the literature with recognition focusing on employees and their *potential* to add-value to the organisation through increased output, market flexibility, and reputation. Empirical studies have focused on HR practices and more recently the HR systems, as a way of understanding the nature of the employee contribution. As this work has demonstrated, managers' influence the adoption and maintenance of the HR system, hence their role must be recognised for its involvement.

Emerging from the analysis and discussion of management style within the cases, challenges can be made of the concept of Thompson's top teams (Thompson, 1999; 2000). From within the cases it is clear that the MD plays a critical role in implementing and directing the culture or approach within the workplace. Particularly within Huck (UK), LAP Electrical and DAP, the MD was recognised, by shop floor employees, as being responsible for driving the organisational culture and

in doing so showing a significant level of commitment to the workplace. Supporting the work of Thompson (2000), the case research recognises that that MD and his top team lead the approach within the workplace. What this research exposes, however, is that the team leader, or first-line supervisor, significantly contributes to the 'maintenance' of the approach or culture. As the managers who are the closest to the shop floor, the team leaders have day-to-day influence over the maintenance of cultures through communications. In LAP Electrical the master-craftsmen, operating in team leader roles, carry through the initiatives set out by the MD and his team. Within Huck (UK) the team leaders play a significant role in implementing the organisational objectives, within the Huck culture, and are given the opportunity to develop new ideas within this culture. In DAP, the involvement of team leaders in management discussions around the future of the business helps to establish a common approach, which is then transferred to the shop floor. It is the engagement of the team leader, in the ideas of the top team, which facilitates the development of unified approaches to style and culture.

10.7 Contextualising and diffusing HR

In drawing together elements of the data from this research in chapter nine, a model was offered in which the relationship between a workplace's contextual factors, an HR system and performance outcomes were explored. Pertinent to these relationships are the concepts of path dependency and causal ambiguity. In agreement with the concepts of skill and the opportunity to participate defined by Appelbaum et al. (2000), this research finds evidence to suggest that appropriate selection, extensive participation, communications, flexible employment and skill development form a critical part of the HR system of 'best principles'. What distinguishes this work from that of authors such as Appelbaum et al., (2000), and develops the work of authors such as Whitfield and Poole (1997), is that the HR system is firmly recognised as being set in a wider context. The contextualisation of the HR system, within an environment of internal and external organisational variables is a significant forward step in the development of understanding of HR

policies and practices and their adoption for competitive advantage. Through the details of the case analysis the role of the customer in the adoption of quality and HR practice, and the interaction of the customer with technology, has received a greater profile than previous considered.

Within the model, management's discretionary behaviours are attributed with having a significant role in enhancing the behaviours of employees, thus influencing the outcomes of the relationship between the HR system and the work force. The work of many authors, who debate HR and performance, fail to address the 'management' of an HR system, or the management of the employment relationship in understanding the contribution that employees can make to the success of the organisation (Huselid, 1995; Pfeffer, 1994; MacDuffie, 1995; Arthur, 1992). The conclusions from this research provide some support for the work of a number of authors (Banker et al., 1996; Youndt et al., 1996; Appelbaum et al., 2000; Osterman, 1994) who identify the creation of trust as important in the implementation of HR practices. Also there is some secondary support for the work of Ichniowski (1992) who identified that effective conflict resolution is a good test of the organisational 'atmosphere'. Indeed, it is only in the recent, and influential, work of Hutchinson et al. (2001; 2002) have managerial discretionary behaviours been given adequate recognition.

Similar to the work of Appelbaum et al., (2000), this research identifies employee trust, commitment and discretionary effort as important elements in the achievement of performances outcomes / competitive advantages. Developed from the research evidence the model recognises employee motivation as an employee 'outcome' of the adoption of appropriate HR policies and practices and management behaviours. Through participation, the development of skills and knowledge and effective communications employees in Huck (UK), DAP and LAP Electrical showed that they felt motivated to work hard and smart. Within SHL, working harder and smarter was most closely attributed to the impact of operating under a 'good manager'. In contrast to the findings of Delery and Doty (1996), job security did not

emerge as an important factor for employee motivation in the cases. The relationship between employment security and employee motivation to exert discretionary effort may, therefore, require further investigation. This evidence, and its contribution in the model, extends the understanding of the impact that HR policies, practices, and manager's behaviours can have on employees. This evidence also provides a unique insight into 'how' HR systems can be adopted, and managed, for competitive advantage.

As part of this understanding, the concepts of path dependency and causal ambiguity have been adopted to explore the nature and direction of the relationships. These concepts can also be used in understanding an unresolved element of the HR performance debate, that of diffusion (Pil and MacDuffie, 1996; Dunlop and Weil, 1996). Through the detail of each of the cases, it is possible to identify points of uniqueness that have the potential to create indiscernible ambiguities. Where relationships, interactions, and organisational knowledge aid the achievement of performance outcomes rather than universal HR practices, the diffusion of effective systems of HR is likely to be limited. It has been through the qualitative evidence of the case studies that has facilitated the understanding in this area (Becker and Gerhart, 1996; p.796).

10.8 Constructing HR systems in medium sized engineering workplaces

The selection of medium sized engineering workplaces for the collection of questionnaire and case data has proved to be a fruitful approach to understanding HR systems, people management, and performance.

What the evidence from the two smaller cases, Huck (UK) and LAP Electrical, show is that an employee's 'orientation to work' is a mixture of economic and non-economistic preferences. This provides some support for the arguments of Ingham (1970) although, his assumption that employees in small workplaces are not interested in pay and benefits is misplaced. What the data from Huck (UK), LAP

Electrical, and DAP lends support to is the suggestion that personal relationships are essentially harmonious. However, contrary to Rainnie's beliefs (1983, 1989) there is no suggestion that such relationships are specific to small businesses, rather they are a consequence of the engagement of employees in the organisation through HR activities facilitated through management's discretionary behaviours. The harmonious image of small and medium sized workplaces becomes less of an art and more of a science.

There is little support for the arguments of Curran and Stanworth (1981), which suggest that the SME environment is contrary to the implementation of HR policies and practices. Certainly, the evidence within the cases highlights the opportunities that workplaces, with small numbers of employees, have in introducing HR policies and practices. Perhaps as a reflection of the unique nature of the four cases, the framework offered by Goss (1991) that defines the 'employer-types' typical to SMEs, is of little use in understanding the adoption and management of HR policies and practices. What Goss' framework does is to state that the 'nature of the employer' dictates the possibility of HR policies and practices being adopted. The data from this research has shown that the development of HR systems are set in a context that captures the manufacturing-engineering strategy, the role of the customer and technologies as well as the nature of the employer. The fraternalistic approach offers the most interesting tool for analysis, one that Goss dismisses as uncommon. In the years that have followed the development of this framework, there has been an absence of theoretical contexts in which an understanding of SMEs can be sought. The evidence from this work highlights that a review of the theory is necessary, where the existing theory encourages a lack of interest in developing HR systems within the sector.

The earlier work of Rainnie (1989), has the potential to round off the work of Goss by offering a useful typology in understanding the impact of the market environment. From the cases it is evident that the role of the customer plays an important role in the adoption of quality and HR initiatives. The relationships between these cases

and their customers can be identified through Rainnie's work, with differing typologies applying. What is clear is that each case operates with a degree of uniqueness in the way the relationship with customers is developed and, therefore, it is only possible to predict the type of employer (Goss) or the market environment (Rainnie) through a qualitative approach to investigating the relationships.

10.9 Conclusions and implications for further research

The aims of this research were various, and have been challenged successfully through the adoption of differing methods for the effective consideration of HR policies and practices in medium sized engineering workplaces. Within the sample of engineering workplaces, the adoption of HR policies and practices was established and in doing so, a unique set of data has been developed as to the types of policies and practices these companies have reported. Subsequent case analysis suggests that the self-reported incidence of practices is a realistic reflection of the activities within the sample population. Unique to this research is an initial, but comprehensive, analysis of the context in which the introduction of policies and practices is considered. This evidence has challenged a number of the assumptions regarding the demographic variables of manufacturing and engineering workplaces found in both the HR-performance literature and that of the SME literature. Similarly, a greater understanding of those factors that mediate HR and performance has been achieved through the combination of quantitative and qualitative evidence.

The adoption of combinations of HR policies and practices have been reviewed through a combination of methods, with the case data providing unique insights into the 'processes' of adoption of complementary HR policies and practices. What emerges from the data is that the cases (most specifically Huck (UK), LAP Electrical and DAP), adopt their practices in line with 'best principles' akin to the framework offered by Purcell (1997). In detailed reviews of the cases, a number of influential factors were identified as mediators in the relationship between HR systems and employee outcomes. These factors are a particular strength in this work offering

insights into the processes of HR implementation and management for competitive advantage. What emerge out of the cases is evidence that management's discretionary behaviours, such as engaging in trusting relationships, and the adoption of open management styles, helps to improve the interactions of employees with the organisation and the HR system which leads to enhanced competitive advantage. These interactions are captured by the concept of path dependencies and offer some guidance as to the challenges faced by managers in adopting and diffusing HR policies and practices.

The conclusions from this work emerge as a consequence of the pragmatic methods adopted, as much as the theoretical frameworks they seek to challenge. Critical to the understanding of *why* managers adopt practices, *how* policies and practices are implemented and *what* makes these practices influence employees is the process of researching within organisations. It is recognised that adoption of a questionnaire has provided some useful information in establishing the incidence of HR policies and practices, and has offered a wealth of companies for further research. However, consideration of these companies through a qualitative approach has allowed for a far more detailed and dynamic analysis of HR. Through the case study approach, significant time has been given to developing a greater understanding of the context in which HR practices are implemented. Opportunity has also focused on clarifying the contribution of the role of the employee in bringing HR policies and practices to life. What is revealed through this research process is that HR is effectively considered as an integrated organisational process, and not as an entity that operates externally to the organisation.

As such, the gaps in the existing literature are largely a reflection of the way in which the research has been conducted. What the quantitative approaches adopted in this work have achieved is a modest level of understanding in the relationship between HR and performance, although the causality and nature of interactions remain veiled. HR policies and practices have been established as having a role to play in the

development of successful companies. By adopting a qualitative, and process orientated, research approach the evidence clearly shows that there is much to be learnt from the interactions of employee, managers, trade unions, and HR systems. These interactions have created the focus of the 'black box'. By concentrating on the adoption of qualitative processes to reveal the nature of the contribution of employees, through activities such as participation and the employee voice and management style and leadership, more can be understood as to how links with performance may be developed. The need for longitudinal work, that seeks to capture system changes, management processes and employee development, remains strong. It is the careful consideration of the research process that offers much in the way of unravelling the nature of the contribution of HR to organisational success.

References

Aldenderfer, M.S., and Blashfield, R.K., (1984) '*Cluster Analysis*'. Beverly Hills, CA Sage.

Anderson, R.J., Hughes, J.A., and Sharrock, W.W., (1986) '*Philosophy and the Human Sciences*'. London: Croom Helm.

Appelbaum, E., Bailey, T., Berg, P., and Kalleberg, A.L., (2000) *Manufacturing Advantage – Why high-performance work systems pay off*. London: Economic Policy Institute: Cornell University Press

Appelbaum, E., and Batt, R., (1994) '*The new American Workplace – Transforming work systems in the United States*'. US, Cornell University Press.

Arthur, J.B., (1992) 'The Link Between Business Strategy and Industrial Relations Systems in American Steel Minimills'. *Industrial and Labor Relations Review*. Vol. 45:3, April, p.488-506.

Arthur, J.B., (1994) 'Effects of Human Resource Systems on Manufacturing Performance and Turnover'. *Academy of Management Journal*. Vol. 37:3, p.670-687.

Bacon, N., Ackers, P., Storey, J. and Coates, D., (1996) 'It's a small world: managing human resources in small business'. *The International Journal of Human Resource Management*. Vol. 7:1, p.82-100.

References

Baker, T., (1999) 'Doing Well by Doing Good – the bottom line on workplace practices'. Economic Policy Institute.

Bailey, T., (1992) 'Discretionary effort and the organisation of work: Employees participation and work reform since Hawthorn'. Columbia University. Cited in Huselid, M.A., (1995) 'The Impact of Human Resource Management Practices on Turnover, Productivity, and Corporate Performance'. *Academy of Management Journal*. Vol. 36:3, p.635-672.

Bailey, T. (1993) 'Organizational Innovation in the Apparel Industry'. *Industrial Relations*. Vol.32:1, (Winter) p.30-48

Baird, L., and Meshoulam, I., (1988) 'Managing Two Fits of Strategic Human Resource Management'. *Academy of Management Review*. Vol. 13:1, p.116-128.

Banker, R. D., Field, J. M., Schroeder, R. G., and Sinha, K. K., (1996) 'Impact of Work Teams on Manufacturing Performance: A Longitudinal Field Study'. *Academy of Management Journal*. Vol. 39:4, p.867-890.

Barney, J. B., (1991) 'Firm Resources and Sustained Competitive Advantage'. *Journal of Management*. Vol. 17:1, p.99-120.

Barney, J. B., (1995) 'Looking inside for competitive advantage'. *Academy of Management Executive*. Vol.9:4, p.49-61.

Beaumont, P.S., Hunter, L.C., and Sinclair, D., (1996) 'Customer-supplier relations and the diffusion of employee relations changes'. *Employee Relations*. Vol. 18:1, p.9-19.

References

- Beaumont, P.S., Hunter, L.C., and Sinclair, D., (1996) 'Customer-supplier relations and the diffusion of employee relations changes'. *Employee Relations*. Vol. 18:1, p.9-19.
- Becker, B., and Gerhart, B., (1996) 'The Impact of Human Resource Management on Organisational Performance: Progress and Prospects'. *Academy of Management Journal*. Vol. 39:4, p.779-801.
- Beer, M., Spector, B., Lawrence, P. R., Mills, D., and Walton, R. E., (1984) '*Managing Human Assets*'. New York: Free Press.
- Blyton, P., and Turnbull, P. (1992) (Eds.) *Reassessing Human Resource Management*. London: Sage Publications
- Borch, O.J., and Arthur, M.B., (1995) 'Strategic Networks Among Small Firms: Implications for Strategy Research Methodology'. *Journal of Management Studies*. Vol. 32:4, p.419-441.
- Boxall, P., (1992) 'Strategic HRM: Beginnings of a new theoretical sophistication?' *Human Resource Management Journal*. Vol. 2:3, p.60-79.
- Boxall, P., (1994) 'Placing HR strategy at the heart of business success'. *Personnel Management*. Vol. 26:7, p.32-35.
- Brennan, M., (1992) 'The effect of a monetary incentive on mail questionnaire rates: new data'. *Journal of the Market Research Society*. Vol. 34:2, April, p.173-177.
- Brennan, M., Hoek, J., and Astridge, C., (1991) 'The effect of monetary incentives on the response rate and cost effectiveness of a mail questionnaire'. *Journal of the Market Research Society*. Vol. 33:3, July, p.229-241.

References

- Bryman, A., (1988) (Ed.) *'Doing Research in Organisations'*. London: Routledge.
- Bryman, A., (1989) *'Research Methods and Organisational Studies'*. London: Unwin Hyman.
- Bryman, A., and Cramer, D., (1997) *Quantitative Data Analysis with SPSS for Windows - A guide for social scientists*. London: Routledge.
- CBI / PPP Healthcare International 15th Annual Survey on Absence and Labour Turnover *'Pulling Together'* (2000)
- CBI / TUC, The UK Productivity Challenge. Submission to the Productivity Initiative October 2001. (<http://www.cbi.org.uk/nbds>)
- Chadwick, C., and Cappelli, P., (1998) 'Investments or contracts? The performance effects of human resource systems under different contingencies' (unpublished paper). Cited in Richardson, R., and Thompson, M., (1999) The impact of HR Strategies on Business Performance: a review of the research. Paper for the CIPD.
- Cully, M., O'Reilly, A., Millward, N., Forth, J. Woodland, S., Dix, G. and Bryson, A., (1998) *'The 1998 Workplace Employee Relations Survey – First Findings'*. DTI, ESRC, ACAS, PSI.
- Cully, M., Woodland, S., O'Reilly, A. and Dix, G., (1999) *'Britain at Work: As depicted by the 1998 Workplace Employee Relations Survey'*. London. Routledge.
- Curran, J., and Stanwoth, J., (1981) 'Size of workplace and attitudes to industrial relations in the printing and electronics industries'. *British Journal of Industrial Relations*. Vol. 19:1, p.14-25.

References

Curran J., and Stanworth, J., (1981b) 'The social dynamics of the small manufacturing enterprise'. *Journal of Management Studies*. Vol. 18:2, p.141-158.

Cutcher-Gershenfeld, J., (1991) 'The Impact of Economic Performance of a Transformation in Workplace Relations'. *Industrial and Labor Relations Review*. Vol. 44:2, p.241-260.

de Vaus, D.A., (1993) '*Surveys in Social Research*' (3rd Ed) London: UCL Press Ltd.

DTI (1994) 'Competitiveness: Helping Businesses to Win'. Cm 2563. London HMSO. Cited in Bacon, N., Ackers, P., Storey, J. and Coates, D., (1996) 'It's a small world: managing human resources in small business'. *The International Journal of Human Resource Management*. Vol. 7:1, p.82-100.

Delaney, J.T., Lewin, D., and Ichniowski, C., (1989) '*Human resource management policies and practices in American firms*'. Columbia University Graduate School of Business.

Delery, J. E., and Doty, D. H., (1996) 'Modes of Theorising in Strategic Human Resource Management: Tests of Universalistic, Contingency, and Configurational Performance Predictions'. *Academy of Management Journal*. Vol. 39:4, p.802-835.

Dommeyer, C.J., (1984) 'Does response to an offer of mail questionnaire results interact with questionnaire interest?' *Journal of the Market Research Society*. Vol. 27:1, p.27-38.

Dunlop, J. T., and Weil, D., (1996) 'Diffusion and Performance of Modular Production in the US Apparel Industry'. *Industrial Relations*. Vol.35:3, p.334-355.

References

Dyer, L., (1984) 'Studying Human Resource Strategy: An Approach and an Agenda'. *Industrial Relations*. Vol. 23:2, p.156-69.

Dyer, T., and Reeves, L., (1995) 'Human resource strategies and firm performance: what do we know and where do we need to go?' *The International Journal of Human Resource Management*. Vol. 6:3, p.656 – 670.

Frombrun, C., Tichy, N.M., and Devanna, M. A., (1984) '*Strategic Human Resource Management*'. New York: John Wiley.

Gant, J., Ichniowski, C. and Shaw, K (1999), Getting the job done: Inside the production functions of high-involvement and traditional organizations. IRRA 51st Annual Proceedings

Gerhart, B. (2002) 'Employee attitudes and "High performance" work practices: does one have much to do with the other?' Paper for the CIPD People and Performance Project presented at the Bath Conference.

Goss, D., (1991) *Small Business and Society*. London: Routledge.

Greene, J., and D'Oliveira, M., (1992) *Learning to use statistical tests in psychology*. Milton Keynes: Open University Press.

Guest, D., (1997) Human resource management and performance: a review and research agenda. *The International Journal of Human Resource Management*. Vol. 8:3, June, p. 263-276

Guest, D., (1997) 'Human resource management and performance: what we know and what we still need to know'. ESRC seminar series paper.

References

- David Guest (1997b) 'Towards jobs and justice in Europe: a research agenda'. *Industrial Relations Journal*. Vol. 28: 4 (Dec); p.344.
- Guest, D., (1987) 'Human resource management and industrial relations'. *Journal of Management Studies*. Vol. 24:5, p.503-521.
- Guest, D. E., and Hoque, K., (1996) 'Guest National Ownership and HR Practices in UK Greenfield Sites'. *Human Resource Management Journal*. Vol. 6:4, p. 50 – 74.
- Hartley, D., (1994) *Qualitative Research Methods*. London: Routledge.
- Hendry, C. and Pettigrew, A., (1992) 'Patterns of strategic change in the development of human resource management'. *British Journal of Management*. Vol. 3:3, Sept., p.137-156.
- Hendry, C., and Pettigrew, A., (1990) 'Human resource management: an agenda for the 1990s'. *International Journal of Human Resource Management*, Vol. 1:1, p.17-43.
- Holliday, R., (1994) *Investigating Small Firms – Nice Work?* London: Routledge.
- Hope-Hailey, V., Truss, C., Gratton, and Myers, A. (2002) 'Fit, flexibility and organisational outcomes: implications for strategic human resource management' Paper for the CIPD People and Performance Conference, University of Bath, UK
- Hunter, L., Beaumont, P., and Sinclair, D., (1996) 'A 'Partnership' Route to Human Resource Management'. *Journal of Management Studies*, Vol. 33:2, p.235-257.
- Huselid, M. A., (1995) 'The Impact of Human Resource Management Practices on Turnover, Productivity, and Corporate Performance'. *Academy of Management Journal*. Vol. 36:3, p. 635-672.

References

Hutchinson, S., Kinnie, N., and Purcell, J. (2001) 'HR practices and business performance: what makes the difference?' Paper for the CIPD People and Performance Project presented at the Organisational Renewal Conference, Netherlands.

Hutchinson, S., Kinnie, N., and Purcell, J. (2002) 'Bringing Policies to Life: Discretionary Behaviour and the Impact on Business Performance. Paper for the CIPD People and Performance Project presented at the Bath Conference.

Ichniowski, C., Shaw, K., Prennushi, G., (1997) 'The effects of HRM practices on productivity: a study of steel finishing lines'. *American Economic Review*. Vol. 87:3, June, p.291-313.

Ichniowski, C., (1992) Human resource practices and productive labor-management relations. In Lewin, D., Mitchell, O.S., Sherer, S., (1992) *Research Frontiers in IR and HR*, p.239 – 271 USA, Industrial relations research association.

Ichniowski, C., Kochan, T., Levine, D., Olson, C., and Strauss, G., (1996) 'What Works at Work: Overview and assessment'. *Industrial Relations*. Vol. 35:3, p.299-333.

Ingham, G. K., (1970) *Size of Industrial Organisation and Worker Behaviour*. Cambridge: Cambridge University Press.

Kinnie, N. (1999) Employment Relations in SMEs market driven or customer shaped? *Employee Relations*. Vol. 21:3

Lane, C., and Bachmann, R., (1996) 'The Social Constitution of Trust: Supplier Relations in Britain and Germany'. *Organization Studies*. Vol. 17:3, p.365-395.

References

- Lee, H.L., and Billington, C. (1995) 'The evolution of supply chain management: models and practices at Hewlett-Packard'. *Interfaces*. Vol.25:5, Sept-Oct; p.42-63.
- Legge, K., (1995) *Human Resource Management: Rhetorics and Realities*. London: MacMillan.
- Lowe, J., Delbridge, R., and Oliver, N. (1997) 'High-performance manufacturing: Evidence from the Automotive Components Industry'. *Organization Studies*. Vol. 18:5, p.783-798.
- Lengnick-Hall, C., and Lengnick-Hall, M., (1988) 'Strategic human resource management: A review of the literature and a proposed typology'. *Academy of Management Review*. Vol. 13:3, p.454-470.
- MacDuffie, J.P., (1995) 'Human Resource Bundles and Manufacturing Performance: Organisational Logic and Flexible Productions Systems in the World Auto Industry'. *Industrial and Labour Relations Review*. Vol. 48:2, p. 197-221.
- Marchington, M. (1998) Partnership in Context: Towards a European Model? In Sparrow, P., and Marchington, M. (1998) (Eds.) *Human Resource Management: The New Agenda*. London. Pitman Publishing.
- Marchington, M., and Grugulis, I., (2000) 'Best practice' human resource management: perfect opportunity or dangerous illusion?' *International Journal of Human Resource Management*. Vol.11:6, Dec., p.1104-1124.
- Marchington, M., and Parker, P., (1990) *Changing Patterns of Employee Relations*. London. Harvester Wheatsheaf.

References

- Marchington, M., Wilkinson, A., and Ackers, P., and Goodman, J., (1993) 'The influence of managerial relations on waves of employee involvement'. *British Journal of Industrial Relations*. Vol. 31:4, Dec., p.553-577.
- Marsh, C., (1979) Problems with Questionnaires: Method or Epistemology? *Sociology*. Vol. 13:2, May, p. 293-305
- Miles, R. E., and Snow, C.C., (1978) *Organisational Strategy, Structure and Process*. New York: McGraw-Hill.
- Millward, N., Stevens, M., Smart, D., and Hawes, W. (1992) *Workplace Industrial Relations in Transition: The ED/ESRC/PSI/ACAS Surveys*. Aldershot, Dartmouth
- Mintzberg, H., (1994) *The Rise and Fall of Strategic Planning*. Prentice Hall. London.
- Morris and Wood (1991). Cited in Saunders, M., Lewis, P., and Thornhill, A., (1997) *Research Methods for Business Students*. London: Pitman.
- Moser, C.A., (1969) *Questionnaire Methods in Social Investigation*. UK. Heinmann Ltd.
- Noon, M., (1992) 'HRM: A map, model or theory?' In Blyton, P., and Turnbull, P., (Eds.) (1992) *Reassessing Human Resource Management*. London. Sage Publications
- Oppenheim, A. N., (1992), *Questionnaire Design, Interviewing and Attitude Measurement*. London: Pinter.
- Owen, F., and Jones, R., (1994) *Statistics*. (4th Ed.) London: Pitman Publishing.

References

- Osterman, P., (1994) 'How common is Workplace Transformation and Who Adopts It?' *Industrial and Labour Relations Review*. Vol. 47:2, p. 173-188.
- Patterson, M., Lawthorn, R., West, M., and Stainforth, D., (1996) '*What is it like to work here? The climate of UK manufacturing*'. Institute of Work Psychology. University of Sheffield and The Centre for Economic Performance, LSE.
- Pfeffer, J., (1994) *Competitive Advantage Through People: Unleashing the power of the work force*. Harvard Business School.
- Pil, F. K., and MacDuffie, J. P., (1996) The adoption of high-involvement work practices. *Industrial Relations*. Vol.35:3; p.423 – 455.
- Piore, M., and Sabel, C (1984) *The Second Industrial Divide*. New York: Basic books.
- Poole, M., (1982) 'Theories of Industrial Democracy: the emerging synthesis ' *Sociological Review*. Vol. 30:2.
- Porter, M. E., (1980) *Competitive Strategy. Techniques for Analysing Industries and Firms*. New York: Free Press. Macmillan.
- Porter, M. E., (1985) *Competitive Advantage: Creating and Sustaining Superior Performance*. New York: Free Press.
- Purcell, J., (1989) 'The impact of corporate strategy on human resource management'. In Storey, J., (Ed.) (1989) *New Perspectives on Human Resource Management*, London, Routledge.
- Purcell, J., (1997) Pulling up the draw-bridge: high commitment management and the exclusive corporation. Paper for Cornell conference 1998.

Purcell, J., (1995) Corporate strategy and its link with human resource management. In Storey, J., (Ed.) *Human Resource Management: A critical text*. London: Routledge

Purcell, J., and Ahlstrand, B., (1994) *Human resource management in the multi-divisional company*. Oxford, Oxford University Press.

Ramsay, H., (1977) 'Cycles of Control: Worker Participation in Sociological and Historical Perspective'. *Sociology*. Vol. 11:3, p.481-505.

Rainnie, A., (1989). *Industrial Relations in Small Firms: Small Isn't Beautiful*. London: Routledge

Reynolds, N., Diamantopoulos, A., and Schlegelmilch, B., (1993) 'Pretesting in questionnaire design: A review of the literature and suggestions for further research'. *Journal of the Market Research Society*. Vol. 35:2, April, p.171-182.

Reichardt, C.S., and Cook, T.D., (1979) 'Beyond Qualitative Versus Quantitative Methods'. In C.S. Reichardt and T.D. Cook (Ed) *Qualitative and Quantitative Methods in Evaluation Research*. London. Sage.

Richardson, R., and Thompson, M., (1999) 'The impact of HR Strategies on Business Performance: a review of the research'. Paper for the CIPD.

Robbins, S.P. (1987) *Organizational Theory*. Cited in Ogbonna, E. (1992) *Organization culture and human resource management: dilemmas and contradictions*. In Blyton, P., and Turnbull, P., (Eds.) (1992) *Reassessing Human Resource Management*. London, Sage Publications.

References

- Robinson, S L, (1996) 'Trust and breach of the psychological contract'. *Administrative Quarterly*. Vol.41, p.574-599.
- Robson, C., (1993) *Real World Research*. Oxford. Blackwell.
- Saunders, M., Lewis, P., and Thornhill, A., (1997) *Research Methods for Business Students*. London: Pitman
- Schuler R. S., and Jackson, S. E., (1987) 'Linking competitive strategies with human resource management practices'. *Academy of Management Executives*. Vol. 1:3, p.209-213.
- Sparrow, P., and Marchington, M. (1998) Re-engaging the HRM function: rebuilding work, trust and voice. In Sparrow, P., and Marchington, M. (1998) (Eds.) *Human Resource Management: The New Agenda*. London. Pitman Publishing.
- Storey, J., (1992) *Developments in the Management of Human Resources*. Oxford. Blackwell.
- Storey, D.J., and Westhead, P. (1997) 'Management Training in Small Firms - a case of market failure?' *Human Resource Management Journal* Vol. 7:2, p. 61 – 71.
- Tashakkori, N., and Teddlie, A., (1998) *Mixed Methodology: Combining Qualitative and Quantitative approaches*. London. Sage.
- Thompson, M., (1998) 'What works in UK Aerospace?' Society of British Aerospace Companies and Department of Trade and Industry, Briefing paper.
- Thompson, M., (1998) 'Skill, training and business performance in UK Aerospace'. *Society of British Aerospace Companies and Department of Trade and Industry*, Briefing paper.

References

Thompson, M., (2000) 'The Competitiveness Challenge – Final report. The Bottom Line Benefits of Strategic Human Resource Management; The UK Aerospace People Management Audit 2000'. *Society of British Aerospace Companies and Department of Trade and Industry*, Briefing paper.

Tichy, N.M., Frombrun, C. J., and Devanna, M. A., (1982) 'Strategic Human Resource Management'. *Sloan Management Review*. Vol. 23:2, p. 47-61.

Walton R.E., (1985) 'From control to commitment in the workplace'. *Harvard Business Review*. March-April, 77-84.

WERS 3 – Millward, N., Stevens, M., Smart, D., and Hawes, W. (1992) *Workplace Industrial Relations in Transition: The ED/ESRC/PSI/ACAS Surveys*. Aldershot, Dartmouth.

WERS 98 - Cully, M., O'Reilly, A., Millward, N., Forth, J. Woodland, S., Dix, G. and Bryson, A., (1998) 'The 1998 Workplace Employee Relations Survey – First Findings'. DTI, ESRC, ACAS, PSI.

West, M., Lawthorn, R., Patterson, M., and Stainforth, D., (1995) *Still far to go: The management of UK manufacturing*. Institute of Work Psychology. University of Sheffield and The Centre for Economic Performance, LSE

Whipp, R., (1992) 'Human resource management, competition and strategy: some productive tensions'. In Blyton, P., and Turnbull, P., (Eds.) (1992) *Reassessing Human Resource Management*. London, Sage Publications.

Whitfield, K., and Poole, M., (1997) 'Organizing Employment for High performance: Theories, Evidence and Policy'. *Organization Studies*. Vol.18:5, p.745-764

References

- Whittington, R., (1993) *What is strategy and does it matter?* London. Routledge.
- Wickens, P.D., (1987) *The Road to Nissan*. London. Macmillan.
- Wood, S., (1995) 'The Four Pillars of HRM: are they connected?' *Human Resource Management Journal*. Vol. 5:5, p.49 - 59
- Wood, S., and Albanese, M. T., (1995) 'Can we speak of a high commitment management on the shop floor'. *Journal of Management Studies*. Vol. 32:2, March, p.215-247.
- Wright, P.M., and Gardner, T.M., (2000) *Theoretical and empirical challenges in studying the HR practice – firm performance relationship*. Paper for the European Institute for Advanced Studies in Management.
- Wright, P.M., and Sherman, W.S., (1997) *Failing to find fit in strategic human resource management: theoretical and empirical problems*. Conference paper - Research and Theory in SHRM: An agenda for the 21st Century. Cornell University.
- Wright, P.M., and McMahan, G. C., (1992) 'Theoretical Perspective for Strategic Human Resource Management'. *Journal of Management*. Vol. 18:2, p. 295-320.
- Youndt, M.A., Snell, S. A., Dean, J. W., and Lepak, D. P., (1996) 'Human Resource Management, Manufacturing Strategy, and Firm Performance'. *Academy of Management Journal*. Vol. 39:4, p.836-866.
- Yin, R., (1994) *Case Study Research: design and methods*. (2nd. Ed.). Sage Publications.
- Zuboff, S., (1988) *In the Age of the Smart Machine: the Future of Work and Power*. New York: Basic Books.

Appendix I HR matrix of existing research

Practice \ Author	US				
	Kochan & Osterman	MacDuffie	Huselid	Cutcher-Gershenfeld	Arthur
Self directed work teams	Y	Y		Y	Y
Job rotation	Y	Y			
Problem-solving / quality circles	Y	Y		Y	Y
TQM	Y	Y			
Suggestions received or implemented		Y			
Hiring criteria		Y			
Contingent pay		Y	Y		Y
Group incentive					
Status barriers		Y			
Initial weeks training for supervisors and employees		Y			
Hours per year after initial training		Y	Y		Y
Information sharing			Y		
Job analysis			Y		
Hiring from out v within			Y		
Attitude surveys			Y		
Grievance procedures			Y		
Job security					
Employment tests			Y		
Formal performance appraisal			Y		
Promotion rules			Y		
Selection ratio			Y		
Feedback on production goals				Y	
Conflict resolution				Y	Y
Job design narrow or broad					Y
% Skilled workers					Y
Supervisor span of control					Y
Social events					Y
Average total labour cost					Y
Benefits / total labour cost					Y

Appendix II Models of High performance work systems

MacDuffie (1995; p.203) developed a categorisation of HR practices which identified activities that occur at the plant level and those that are developed, primarily at the corporate level. The table below identifies the two categories: Work System Index and an HRM policies Index and their impact on skill/knowledge, motivation/commitment and the level of integration of HR with production system, and strategy.

Innovative Human Resource Practices and Their Link to the Conditions for Economic Performance

<i>Innovative HR practice</i>	<i>Skill / knowledge</i>	<i>Motivation / commitment</i>	<i>Integration of HR with Production System, Strategy</i>
<i>Work Systems Index</i>			
Work Teams	X	X	X
Problem-Solving Groups (Employee Involvement/Quality Circle groups)	X	X	X
Employee Suggestions Made + Implemented	X	X	X
Job Rotation	X		X
Decentralisation of Quality-related Tasks	X		X
<i>HRM Policies Index</i>			
Recruitment & Hiring	X	X	
Contingent Compensation		X	X
Status Differentiation		X	
Training of New Employees	X	X	
Training of Experienced Employees	X	X	

Delery and Doty (1996, p.809)

‘Characteristics of Employment Systems’

HR Practices	Market-Type System	Internal System
Internal career opportunities	LOW	HIGH
Training	LOW	HIGH
Results Orientated Appraisals	HIGH	LOW (behaviour not results)
Profit sharing	HIGH	LOW
Employment Security	LOW	HIGH
Participation / Voice	LOW	HIGH
Job Description	LOW / LOOSE	HIGH

Youndt et al., (1996) combined HR policies and practices using the procedures adopted by Arthur (1992, 1994) MacDuffie (1995) and Osterman (1994), into two indexes.

Summary of Administrative and Human-Capital-Enhancing

Human Resource Practices (page 846)

HR Practices	Administrative	Human-Capital-Enhancing
Staffing	Physical Skills	Selective staffing Technical skills Problem-solving skills
Training	Policies Procedures	Comprehensive training Technical skills Problem-solving skills
Performance appraisal	Administrative Results-based	Developmental Behaviour based
Compensation	Hourly Individual incentives Internal equity	Salary Skill-based Group incentives External equity

Pfeffer's 13 High commitment practices (1995)

13 High Commitment Practices

High Commitment Practice	Impact on the working environment and employees
Employment security	Commitment from the organisation, implicit assumption that employees will repay the commitment leading to loyalty, discretionary effort, employee involvement.
Selectivity in recruiting	Selectivity may lead to lower turnover, security for employees thus commitment
High wages	Not absolutely necessary, but you may get what you pay for. Higher wages may reduce turnover and increase commitment. Do people work for money only?
Incentive pay	Reward performance to satisfy recognition and fair treatment (which levels in the company receive this?)
Employee ownership	Less conflict between capital and labour. Makes employees shareholders creating a long term profit orientated approach i.e. gain sharing or profit sharing
Information sharing	Consultation to gain commitment through involvement. May reduce conflict to changes
Participation	Decentralised decision making, involvement and commitment
Teams and job design	Teams enhance autonomy, e/e control, involvement and trust. Job design used to emphasis the use of employees skills and knowledge
Training and skill development	Enhances differentiation strategy through variety. Improves quality
Multi-skilling	Enables functional flexibility and the production of a variety of G&S
Symbolic egalitarianism	I.e. car parking, single canteen, uniform (Nissan)
Promotion from within	Training and skill development. Participation, motivation and commitment
Compressed pay	Team based

Appendix IV Questionnaire covering letter

Dear Sir / Madam

Engineering Employers' Federation Centenary Scholarship Awards

The Engineering Employers' Federation (EEF) has commissioned the Work and Employment Research Centre at the University of Bath to study the links between the management of people and business competitiveness among small and medium sized engineering firms (SMEs). This study is part of the EEF Centenary Year activities.

One project undertaken by Victoria Downing, a doctoral student at Bath, concerns the relationship between **personnel / human resource policies and practices and business performance**. A short questionnaire has been produced which takes approximately 15 minutes to complete. We will be very grateful if you would help this study by completing the questionnaire by 21st November 1997.

Your copy of the questionnaire is enclosed with this letter. Each questionnaire is confidential and will not be passed onto anyone else beyond the researcher. No individual company will be referred to in the research report.

A report will be available in the early part of 1998 and a copy will be sent to you if you wish.

Thank you for your co-operation on this matter.

Yours sincerely

David Yeandle

**Head of Employment Affairs
Engineering Employers' Federation**

Enc.

Professor John Purcell

**Head of Work and Employment
Research Center
University of Bath**

Appendix V Questionnaire & Glossary of Terms

Human Resource Policies and Practices and the Link to Firm Performance

Purpose and Outcomes

The purpose of the project is to investigate the **role of Human Resource practices and policies in improving business performance** within small and medium sized engineering enterprises (SMEs). It is anticipated that the results from this questionnaire will aid a greater understanding of how and why new working practices may be of benefit to organisations within the UK.

It is planned that an **analysis of the results** of this questionnaire, and other information on the project, **will be available for wider circulation to member companies during 1998.**

Instructions

This questionnaire ought to take no longer than 15 minutes using mainly tick boxes

- Please tick the appropriate box in relation to the company at which you work, unless otherwise directed.
- Please complete all of the sections that are relevant to your company.
- If you are uncertain as to the meaning of a particular word or phrase please refer to the **Glossary of Terms** at the back of the questionnaire. Words that are shaded are referred to in the glossary.
- Please return the completed questionnaire in the pre-paid envelope before 21st November 1997.

Address Label

The purpose of the address label attached to this questionnaire is to provide the researcher with some knowledge of the responses from each Association area. The address label acts purely as a research tool and total confidentiality is guaranteed for all respondents. Any company information provided in this questionnaire will not be passed on to any individual, organisation, or official body. The name of your company or your own name will not be referred to in any analysis of the results.

Thank you for taking the time to complete this questionnaire.

Victoria Downing Doctoral Researcher School of Management University of Bath BATH
BA2 7AY Telephone (01225) 826826 ex5682

Section 1

Background Information

We need to know something about your company

Name and Address Label

1. How many people work in your company?

2. Of this total how many are:

managers

employees

temporaries

agency workers

3. How many of the totals employed are:

male

female

4. What % of your employees are:

technical

clerical

skilled

semi-skilled

un-skilled

part-time

5. What is the main product of your company?

6. How would you describe the level of complexity / sophistication of your production technology:

High

Moderate

Low

7. How long has your company been at these premises :

less than 3 years

between 3 - 10

more than 10 years

8. Is this company:

an independent organisation in its own right
(i.e. the only company in the organisation)

or

part of a wider organisation
(i.e. one of a number of companies in the organisation)

9. If your company is part of a larger organisation, is the parent organisation:

British owned

Non – British

Section 2	Management of the Human Resource / Personnel Function
-----------	---

It is useful to understand how personnel issues are decided upon in your company

10. Does your company have a specialist manager or employee who deals with human resource / personnel issues?

Yes		No	
-----	--	----	--

11. What are the 3 key personnel activities in your company? (i.e. recruitment, pay etc.)

1.
2.
3.

12. Are your human resource / personnel policies discussed at board level?

Yes		No	
-----	--	----	--

13. Which main human resource / personnel issues, if any, are discussed at board level:

Section 3	Selection, Training and the Organisation of Work
-----------	--

*Companies use a wide variety of techniques to select and train their employees
Please use the glossary at the back to clarify terms*

14. Does your company use either or both of these processes for selecting employees?

Trainability (i.e. ability to learn)	
Psychological tests	

15. Do you operate a policy that encourages promotion from within the company when ever possible?

Yes		No	
-----	--	----	--

16. If you have recruited in the past 12 months approximately what % of employee positions have been filled by internal candidates?

0 - 25		26 - 50		51 - 100	
--------	--	---------	--	----------	--

17. What % of your employees is engaged in NVQ training as part of a company initiative?

0 - 25		26 - 50		51 - 100	
--------	--	---------	--	----------	--

18. What % of these employees has completed their NVQ?

0 - 25		26 - 50		51 - 100	
--------	--	---------	--	----------	--

19. How many **hours** training does each new core employee normally receive when starting a job here ?

	induction	off the job	on the job
shop floor			
staff			

20. What % of your employees received the following number of **days** training on average last year? (e.g. 25 % of employees received 2 –10 days training)

1 or less	2 - 10	11 or more

21. Does your company operate any of the following practices?

	No	Yes
continuous cell processing		
team working		
employees set performance targets		
employees responsible for quality		

22. Do you have either:

OR

foremen / supervisors	
-----------------------	--

team / cell leaders	
---------------------	--

23. Do **employees** move between tasks as part of their normal work pattern?

Yes		No	
-----	--	----	--

24. Are the jobs of **employees** deliberately designed to utilise all the skills and knowledge of the individual?

Always		Sometimes		Never	
--------	--	-----------	--	-------	--

25. Which of the following best describes the practice in your company for employees?

• we do not use job descriptions	
• we have flexible job descriptions which are not linked to one task	
• we have detailed job descriptions	

Section 4

Consultation and Communication

How, if at all, are employees communicated to, and asked for their views?

26. Which of the following communication processes does your company operate for employees?

team briefings/cascade communication	
attitude surveys	
production feedback on goals	
annual report	
notice boards	
formal yearly appraisal	
newsletter	
other (please specify)	

27. Does your company operate any of the following problem-solving schemes?

quality circles / regular group discussions	
joint consultative committees	
suggestion schemes	
other (please specify)	

28. Are employees encouraged to make suggestions?

Yes		No	
-----	--	----	--

If **no** please go to question **31**

29. If you have a formal suggestion scheme approximately how many suggestions are received per month?

30. Approximately what % of these suggestions, if any, was implemented last year?

 %

Section 5	Representation at Work
-----------	------------------------

It is interesting to know how employees are represented at work today

31. Do you recognise any trade union for collective bargaining or consultative purposes?

Yes		No	
-----	--	----	--

If **no** then please go to question **33**.

32. Approximately what % of your workforce has union membership?

%

33. If you do not recognise trade unions do you have non-union representative staff, or a committee, for employees?

Yes		No	
-----	--	----	--

Section 6	Remuneration
-----------	--------------

Pay and payment systems remain a key area for managers and employees alike

34. Do you have harmonised terms and conditions between manual workers and staff?

Yes		No	
-----	--	----	--

35. What %, if any, of your employees are **paid by results**?

%

36. What % of your employees, if any, is eligible to receive **merit pay**?

%

37. Are pay grades for employees established through **job evaluation schemes**?

Yes		No	
-----	--	----	--

38. Are the majority of your employees eligible to join an occupational pension scheme?

Yes		No	
-----	--	----	--

39. Are the majority of your employees eligible for a share ownership scheme?

Yes		No	
-----	--	----	--

40. Does your company have an Inland Revenue approved profit related pay scheme?

Yes		No	
-----	--	----	--

Section 7

Customer - Supplier Relationship

It is of value to understand where your company fits into a supply chain

41. To how many customers do you supply your main product?

42. What % of your output is taken up
by your 3 largest customers?

 %

43. Are you a sole supplier to any of your customers?

Yes		No	
-----	--	----	--

44. In the past 3 years have any of your customers influenced your Human Resources / Personnel policies or practices, or any of your Quality practices?

Human Resource / Personnel	Yes		No	
Quality	Yes		No	

45. If you have answered yes to either Human Resource / Personnel or Quality please explain briefly:

46. How many main suppliers do you have ?

47. How would you describe the size of the market share
for your main product, relative to your competitors?

Size of Share	UK market	World Market
Majority market share		
Moderate level of market share		
Minor level of market share		

Section 8

Workplace Performance

It is desirable to gather some information on the perceived state of company effectiveness. You may find some of the following questions challenging. Please attempt to answer all questions.

48. What two features of your products or services are most crucial for competitive success in your market?

price	
quality	
responsiveness to customers requirements	
advertising / marketing	
providing a distinctive product or service	
delivery time / availability	

49. What was the approximate % of employee labour turnover last year?

%

50. What was your level of absenteeism last year?

%

51. How does your actual quality attainment
match
your projected quality attainment?

(Please indicate your unit of measurement)

52. What is your % delivery performance?
(i.e. delivery on time)

%

Please tick the most appropriate answer for your company:

53.	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
The level of employee commitment to the company is high					
Worker-hours lost to scrap are low					
It is not easy to respond rapidly to market demand through flexible employment practices					
The quality of work by employees is better than a year ago					
The company is satisfied with the levels of performance					

Section 9

Change Factors

It would be of value to know if your company has under gone any changes

54. Have there been any significant organisational changes in the past 3 years?

Yes		No	
-----	--	----	--

55. What types of changes have occurred?

appointment of a new MD / C.E.O.	
introduction of new working practices	
increased accountability to business units	
major investments	
introduction of new plant machinery / equipment	
changes in the level of technology	
redundancies	
change in ownership	
launch of a new product	
other (please specify): _____	

56. Have you introduced any work or production practices that you believe have been significant in the success of your company? (i.e. TQM, MRPII, JIT)

Yes		No	
-----	--	----	--

57. If you have answered yes then please explain briefly:

What they are: _____

How they are significant: _____

58. If your organisation is engaged in the Investors in People award at what stage are you?

committed to the award	
company assessed and award received	

59. Have you used a consultant in the past year to help you with Human Resource / Personnel issues?

Yes		No	
-----	--	----	--

60. How many times in the past twelve months, if any, have you sought advice from the Engineering Employers Association (EEF) on employment issues?

never	
1 - 5 times	
5 or more times	

Thank you for completing this questionnaire. I would be grateful if you would indicate who completed the questionnaire

Name: _____ Position: _____

Telephone Number: _____

Please tick the box if you are interested in receiving a Summary of Results from the findings of this questionnaire:

☐

If you have been interested in the content of the questionnaire and would be happy to be further involved in this study please tick the box:

☐

If you have any outstanding queries regarding the questionnaire or the project at the University of Bath please contact **Victoria** on **01225 826 826** extension 5682 or Email **mnpvld@bath.ac.uk**

Victoria Downing (Doctoral Researcher) School of Management University of Bath BATH

Glossary of Terms

Agency Workers: Workers at your company employed by an agency (e.g. Manpower).

Annual Report: Report on financial details of the organisation or company including issues of shareholders and profits.

Appraisal: A meeting between an employee and his / her line manager to discuss personal progress, pay and training.

Attitude Survey: Survey or questionnaire used to assess the present attitudes and opinions of employees on many issues e.g. manager - employee relationships, communications.

Company: Refers to the place of work to which this questionnaire is addressed.

Continuous Cell Processing: Employees are assigned to a production section that is dedicated to one product or part of a product. Employees may or may not move between jobs within the cell.

Core: Employees who have a permanent contract of employment, who are not temporary or agency staff.

Employees: Refers to all of those individuals who are not managers. Other terms for employees, that you may be familiar with include: staff / workforce / production workers or manual workers.

Harmonised Terms and Conditions: The same non-pay conditions of employment among all employees e.g. a reduction in the differences in the pay structure and common sick pay and pension arrangements.

Human Resources: This refers to employee relations and employment issues.

Job Evaluation Schemes: Schemes for comparing, systematically, the relative value of different jobs in order to settle their relative rates of pay.

Joint Consultative Committees: A process by which management seeks the views of employees, on matters of change, through elected representatives.

Managers: Refers to those individuals whose job includes planning organising, controlling and directing resources or staff.

Merit Pay: Pay for employees based on appraisal schemes to identify individual performance.

Notice Boards: Information on performance goal achievement placed around the shop floor / offices for employees to access.

NVQ: National Vocational Qualification.

Pay by Results: Payments based on output or direct effort of the individual.

Performance Targets: Targets or goals related to levels of production.

Personnel: This refers to employee relations and employment issues.

Psychological Tests: Questionnaires aimed at measuring an individual's suitability for a job through an assessment of his / her personality. Types of tests include 16PF, MMPI, OPQ.

Quality Circles: A small group of employees, usually from the same work team, who meet voluntarily on a regular basis to identify, analyse and solve quality and work-related problems.

Specialist: An individual who spends between a quarter and a third of their time on a given area of work i.e. personnel.

Suggestion Schemes: Employees are able to provide suggestions on production matters to managers via meetings or 'suggestion boxes'.

Temporary Workers: Individuals employed by your company on a short-term contract.

Trainability: An employee is selected because it is felt that the person has potential, and is willing and capable of learning new skills and procedures.

Team Briefings / Cascade Communication: A system of communication operated by line management, based upon the principle of cascading information down the line. This ensures that all employees know and understand what they, and others in the company, are doing.

Team Working: Employees are grouped into work teams often with a team leader. Employees then work together on production lines or in cells.

Appendix VI Sample interview script

Management of people for improved business performance

How people, and the management of them, makes a difference to the performance of the company

Introduction

Victoria Downing-Burn: student, working on a project set up by the EEF and the University of Bath. Project aims to

1. gather information on how engineering and manufacturing companies are using people or HR policies and practices such as recruitment processes
2. how human resource practices and policies affect the success of engineering and manufacturing companies

Stage 1 of research was questionnaire posted to 3 EEF areas: West midlands, Western and South.

Stage 2 to explore some of the issues in the questionnaire through management and employee interviews

EEF outcomes:

- disseminate an increased understanding of the links between people / human resources and business performance to member companies
- supporting the EEF's representation of member companies views on work and employment issues to the Government, the European Commission other policy making bodies (recent EEF surveys have addressed the member company views on the Working time directive).

This interview is confidential
&
all data remains anonymous

Management Interview

Qu14 etc reflect the questions within the questionnaire. Each question is related, and explores, the information provided in the questionnaire.

Recruitment and Selection

Qu.14 How do you recruit employees? Why do you do this? What type of employees are you seeking to employ?

Qu.15 For existing employees you state that you operate an internal promotion policy. Can you describe a recent situation where this has happened? What is the purpose of this?

Training

qu20

From the questionnaire it is clear that the majority of your employees are trained for between 2 - 10 days per year. What form does this training take?

Team working and job rotation

Qu.21 How is team-working part of the production process?
Are employees responsible for their own quality checks?

qu23 The questionnaire suggests that your employees are able to move between tasks during their normal work pattern, how does this work? Why do you do this?

qu24

How are employees' jobs designed to use their skills and knowledge?

qu25

What impact, if any, do flexible job descriptions for employees have on the company?

Communications

qu26 How often do team briefings (cascade communications) occur in your company? What is discussed during these meetings? Who is involved?

How often do you carry out attitude surveys? Why? What do you use the information for?

What is the role of the yearly appraisal? How does it link to training / remuneration?

Continuous improvement

qu 27 How often do the QC meet?

Who is involved in these meetings: what occurs at these meeting? What decision making processes are engaged in during them?

Working environment / Performance

Qu34. How do you harmonise terms and conditions for all employees?

Qu.44 Following on from the questionnaire can you explain the role of the customer on quality practices / how have your customers impacted on your quality practices?

Qu53. Why is employee commitment high in your company?

Why is the quality of employees' work better than a year ago?

Qu55. Which new working practices have you introduced?

Why have they been introduced?

Tell me about Continuous Improvement here.

Why has there been organisational structure change??

Organisational Success

How do you measure success in your company?

Do you believe that your company has been successful in the past 12 months?

What factors have been key players in success of the company.

Appendix VII Whitfield and Poole (1997; p.749)**Figure 1. The Emergence of High-Performance Work Systems**